RPJCB

JEAN FRANÇOIS GALAUP
DE LA PÉROUSE.
Chef d'Escadre des Armées Navales born at Albi in 1741

JOHN CARTER BROWN

A

# VOYAGE

## ROUND THE WORLD,

IN THE YEARS 1785, 1786, 1787, AND 1788,

*By J. F. G. DE LA PÉROUSE:*

PUBLISHED CONFORMABLY TO THE DECREE OF THE

NATIONAL ASSEMBLY,

OF THE 22D OF APRIL, 1791,

AND EDITED BY

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BRIGADIER GENERAL IN THE CORPS OF ENGINEERS,
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IN THREE VOLUMES.

TRANSLATED FROM THE FRENCH.

VOL. I.

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# ADVERTISEMENT

OF THE

## *ENGLISH EDITOR.*

THE voyages of our various circumnavigators, especially of the immortal Cook, have excited an almost universal interest in the perusal of voyages and travels; and we conceive that the narrative of a scientific expedition, fitted out expressly for the purpose of verifying and completing the discoveries of the English, by a nation the second in maritime importance, and inferior to none in philosophy and the arts, has a very valid claim to the notice of the British public.

The total loss of the frigates BOUSSOLE and ASTROLABE, together with their able

commander LA PEROUSE, and the reſt of the officers and men of ſcience that were aſſociated with him in the hazardous office of exploring unknown coaſts, neceſſarily renders this work leſs perfect than it would otherwiſe have been, as well in reſpect to matter as arrangement: ſeveral curious particulars are given in diſtinct memoirs, which might, in the opinion of ſome, have appeared to more advantage in a continued narrative; and relative to other circumſtances there are only looſe memoranda, which were probably intended as the baſis of elaborate diſſertations. We did not, however, think ourſelves at liberty to omit or abbreviate any thing, or to alter its form or place; *in all reſpects, therefore, this tranſlation is an exact copy of the original.*

If any difference be perceived in the ſtyle of the ſeveral parts of the tranſlation, it is partly to be attributed to the unavoidable neceſsity, occaſioned by competition, of bringing the work

work before the public with the leaſt poſsible delay, in conſequence of which, more than one gentleman has been employed: as, however, in the original work, the narrative and the various political and ſcientific documents, are written by the reſpective perſons embarked in the expedition who were entruſted with the care of the various departments, the variety in the ſtyle of the tranſlation may be principally aſcribed to the want of uniformity in the ſtyle of the original. A few occaſional and immaterial errors and irregularities may very poſsibly have eſcaped the ſtricteſt attention; but eſpecial care has been taken to enſure the accuracy of the nautical parts, and of the ſcientific memoirs on ſubjects of natural hiſtory and geography.

With reſpect to the plates, we have thought ourſelves fully juſtified in the omiſsion of a few which were either duplicates of thoſe given,

or copies from Engliſh voyages, for the purpoſes of compariſon or minute amplification, and by ſo doing, we have been enabled to reduce the price of the work, without deducting in any degree from its real utility.

In regard to Longitude, we have uniformly retained that which is deduced from the meridian of Paris; our readers can, if neceſſary, reduce it to longitude from Greenwich, by adding or deducting 2° 20′ 15″, according as it is eaſt or weſt reſpectively. We have alſo retained the French weights and meaſures; theſe the reader can reduce to the Engliſh ſtandard, the Paris pound avoirdupoiſe being to the Engliſh as 27 to 25; the Paris foot 12·798 of our inches, and the French toiſe 6 Paris feet.

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☞ The BINDER is requeſted to place the nautical tables at the end of the third volume, and to guard the large plates.

## ERRATA IN VOL. I.

Page 74 line 10th from bottom, for baſin read baſon.
123 line 3 from bottom, for north read north-eaſt.
135 line 11 from bottom, for north-north-weſt read weſt-north-weſt.
136 line 2 from bottom, for half eaſt read half north-eaſt.
149 line 6 from bottom, for 2° 30′ eaſt. read 2° 3′ north-eaſt.
227 bottom line, the letters in the word equator are deranged.
236 line 10 from top, after the word ſea add a comma.
248 line 3 from bottom, for reagents read re-agents.
249 line at top of the page, for reagents read re-agents.
291 line 11 from top, divide illformed by a hyphen.
345 line 15 add a comma after the word which.
394 line 11 from bottom, for 5 degrees diſtant read 5 leagues diſtant:
397 line 9 from top, from longitude eaſt of Paris read weſt of Paris.

In the title to the tables at the end of Vol. III. for L' Bouſſole, read La Bouſſole.

THE

# THE FRENCH EDITOR's PREFACE.

THE public, familiarized with the melancholy reflection of the loſs of the two ſhips in the unfortunate expedition commanded by La Pérouſe, will be ſurprized at the publication of the journal of his voyage. The decree of the conſtituent aſſembly, which ordered the engraving of the charts and the printing of the journals ſent home by this navigator, might have announced, however, that we were not entirely deprived of the benefits of his voyage. His foreſight made him not only take advantage of, but ſeek for every opportunity of ſending his journals to Europe. It is to be regretted, that the ſelf-love of the ſcientific perſons embarked along with him did not allow them, in like manner, to diſpatch to their country all the fruits of their labours; we ſhould not in that caſe have had to regret the almoſt total loſs of them. La Pérouſe, occupied with the difficult and numerous details, which the command of an expedition, as important as dangerous, muſt neceſſarily include, forced at every ſtep to judge and foreſee, and conſequently to modify his ideas according to circumſtances, could not collect with order, or arrange with

 method,

method, the materials from which he was to compoſe a hiſtory of his voyage. Theſe materials muſt neceſſarily appear ſtill more confuſed and miſplaced to the view of an editor, who was perſonally a ſtranger to the voyage.

As nothing which may contribute to extend the progreſs of the human mind ought to be neglected in voyages of diſcovery, ſcientific men and artiſts form an eſſential part in ſuch expeditions: upon their return, each arranges his own materials, and gives to the particular object of his ſtudy that degree of perfection, of which it is ſuſceptible; from the well-underſtood connection of theſe different parts reſults a complete relation, where all is contained, and each in its proper place. In this inſtance, by an unexampled fatality, our new argonauts have all periſhed; and, it has fallen to my lot, alone, by collecting whatever has eſcaped the wreck, to ſupply that accurate and forcible repreſentation of the navigators, who would not have expreſſed any thing, but what they themſelves had experienced.

In giving way, not without reluctance, to the ſolicitations, which made me undertake this painful though honourable taſk, I did not deceive myſelf with reſpect to the difficulties, which I muſt neceſſarily have to encounter in a work, all the parts of which it was not eaſy equally to compriſe and to adjuſt.

The

The public will undoubtedly regret with me, that the Ex-minister of marine Fleurieu, at this time member of the national institute, and of the board of longitude, instructed as he is in subjects of this nature, of such rare and distinguished talents, and who would willingly have taken upon himself the editing of this work, was forced, by circumstances, to relinquish it.

The same interest which induced me to manifest, in the tribune of the constituent assembly, a strong zeal for the publication of this voyage, for the profit of the much esteemed widow of La Pérouse, occasioned me to endeavour to direct the choice of the government to a naval officer, capable of supplying the place of him, who had been at first appointed to the undertaking. But France had already lost most of her eminent sea officers, and the rest were either on service, or had voluntarily withdrawn themselves: it was only in the power of the minister to appoint a man, who had at least applied himself to the study of natural history and mathematics, an essential qualification for such a work. The choice of a man, who should possess in a preferable degree this kind of knowledge, was, besides, conformable to the intention of La Pérouse; for he wrote to one of his friends nearly in these words. "If my journal should be printed before my return, let care be taken not to entrust it to a man of

letters, who will ſacrifice to the turning of a phraſe the proper word, which may appear harſh and barbarous to him, but which the ſeaman and the man of ſcience would prefer, and will look for in vain; or, perhaps, laying aſide all the nautical and aſtronomical details, and deſirous of making of it an intereſting romance, he will commit errours, for want of knowledge which his education may not have permitted him to acquire, errours which will prove fatal to my ſucceſſors; but chooſe an editor verſed in mathematical knowledge, who may be capable of calculating, of combining my data with thoſe of other navigators, of correcting the errours which may have eſcaped me, and not commit others himſelf. Such an editor will dive to the bottom; he will ſuppreſs nothing eſſential; he will give the technical details in a rough unpoliſhed ſtyle, but conciſely and like a ſeaman, and he will perform his taſk well, by publiſhing the work as I ſhould have wiſhed to do it myſelf."

This deſire having conſtantly ſerved me as a rule, I declare to thoſe who, in reading, have no other object than amuſement, that they ought not to proceed further; I have not laboured for them, but only for ſeamen and men of ſcience. It has been my endeavour in a work, the matter of which is more important than the form,

and

and of which the beſt praiſe will be fidelity in the relation of facts, and accuracy in expreſſion, to be clear and conciſe; I have made no ſacrifice to grace at the expence of truth: this confeſſion is my excuſe, at the ſame time that it beſpeaks the indulgence of the reader.

It is with this view, that I have religiouſly reſpected the character of ſtyle in each author, in meerly ſubjecting their memoirs to the known rules of language; but when an idea has preſented itſelf to me, which might ſerve as a connection to others, an expreſſion which might render an image more perfect, or more obvious, or give to a phraſe more harmony without altering its import, I have conſidered myſelf at liberty to employ it.

The work about to be preſented to the reader would doubtleſs have been more valuable, had it proceeded from the pen of the ex-miniſter Fleurieu, who might have enriched it by his profound knowledge: I ought, however, to make it known, that I have conſulted him as often as I have been at a loſs, and I have always found in him that complaiſance and modeſty, which are the inſeparable companions of real talent and ſcience.

If to collect, to diſpoſe, to arrange methodically all the parts of a work like this, were a difficult enterprize, the particulars relating to its pub-

lication, the toils, the reſearches, and inquiries, which the moſt active zeal alone could go through, and unforeſeen obſtacles, appeared to render it impracticable.

The decree for its being printed was paſſed in the year 1791, and nothing was begun in 1793, the period at which I was entruſted with it. A paper money every day decreaſing in value, occaſioned the bargains and agreements with the artiſts and printers to be broken almoſt as ſoon as made, or induced them to oppoſe my efforts with a diſcouraging inertneſs, founded upon the hope of better times; public opinion bordering on madneſs, which then forced men to accommodate to the times, in oppoſition to the truth of hiſtory, the appellations and cuſtoms of other times, compelled me to remain inactive during more than a year; after all this, a new paper money, and the embarraſsments of the government when ſpecie re-appeared, have been the phyſical and moral cauſes of the hindrance I have met with.

To enable me to reconcile the difficulties of editing, which aroſe out of the circumſtances of the moment, I was ſtrongly importuned to write the voyage in the third perſon. Thus becoming the hiſtorian, and appropriating to myſelf the materials of this work, I ſhould have thrown

the navigator into the back ground: this propoſal did not gain upon my ſelf-love; I ſacrificed it to the intereſt which is always inſpired by a man who relates his own feelings, who deſcribes the difficulties of his own ſituations, and who makes you a partaker in his pleaſures and pains.

If circumſtances have ſurrounded me with obſtacles during my labour, the reſult will prove, at leaſt, that government has not ceaſed to protect the ſciences and the arts, during the moſt aſtoniſhing of revolutions, which has raiſed up againſt it a war as general as burdenſome.

I have explained the nature and difficulties of my labour; I will now ſpeak of the form of the work, of its diſtribution, and of the care taken in the execution of it.

The title of *Voyage round the World*, which I have given it, although ſtrictly ſpeaking it could not have been acquired but by the return of La Pérouſe into one of the ports of France, will nevertheleſs not be conteſted, becauſe we may conſider a Voyage round the World as terminated, when, departing from Europe, we arrive at China, after having doubled Cape Horn, and croſſed the South Sea: beſides, the events that occurred during their year's voyage, after their arrival at China, were more ſtriking and hazardous, than a mere return to Europe.

The work, consisting of four volumes in 8vo, and of an atlas in 4to, is divided in the following manner.

The first volume contains all the preliminary articles relative to the expedition; I have only added to them the translation of a Spanish voyage, the manuscript of which was transmitted by La Pérouse, and which I thought I could not place any where else, without rendering the volumes too unequal.

A celebrated author rescued from oblivion the magnanimous conduct of D'Assas, who sacrificed his life to save the French army, by calling out, "*This way, Auvergne, here is the enemy.*" The society of natural history at Paris, had the merit of fixing the attention of the representatives of the nation upon the expedition of La Pérouse, by the petition it presented the 22d of January, 1791. The assembly lost no time in taking it into consideration, though they were then engaged in very important business.

The two decrees which passed in consequence, as honourable to the assembly as to those who were the object of them, are placed at the head of the work; they breathe humanity and sensibility, and will for ever say to those who are willing to tread in the steps of La Pérouse, "When you shall have finished your career through all surrounding dangers, though you

should

ſhould fail in the attempt, you may reſt ſatisfied, that a grateful country will honourably conſecrate your name, in the temple of memory."

I have not confined myſelf to the cuſtom of publiſhing the names of the officers, and men of ſcience, alone, who make up a part of ſuch expeditions: the publication of an exact liſt of the ſhips companies appears to me to be an act more comformable to juſtice, and to the principles of the French government; I have thought alſo, that ſuch a regiſter will henceforth be the only regiſter of the dead, acceſſible to the families of our unfortunate navigators.

The inſtructions and the geographical notes which follow, written by the ex-miniſter of the marine Fleurieu, are too precious a model not to be rendered public: it is, beſides, the only anſwer I chooſe to make to a note of George Forſter, miſrepreſenting the truly ſcientific motives which determined this expedition. I regret, that a man whom I eſteem ſhould have expreſſed himſelf thus, in his *Voyage Hiſtorique et Pittoreſque ſur les rives du Rhin.* (Vol. I, page 311, of the French tranſlation.)

" At the period, when the intereſting and un-
" happy La Pérouſe ſet off, to open new regions
" to commerce and philoſophy, a miniſter pre-
" ſented to the council a memorial upon the
" incalculable advantages of this enterprize.

" This

" This memorial, though long, was read with " eagerneſs, notwithſtanding it contained only a " ſingle idea, it was this: if you wiſh, Sire, " ſaid the miniſter, *to turn aſide the attention of* " *your ſubjects from this dangerous angloma-* " *nia, this paſſion for liberty, ſo deſtructive of* " *good order and of peace; amuſe them with* " *new ideas, beguile their leiſure, by images* " *the bewitching variety of which may feed their* " *frivolity. It is better, that they ſhould em-* " *ploy themſelves in contemplating the waggiſh* " *tricks of Chineſe monkies, than in following* " *the preſent faſhion which leads them to admire* " *the horſes and philoſophers of England.*"

The ſecond and third volumes comprize the journal of the whole voyage of the two frigates; together with the reſult of the aſtronomical and meteorological obſervations.

It is to the progreſs of aſtronomy, that we owe the means of determining the longitudes at ſea, with much greater exactneſs than formerly: to announce that the aſtronomer Dagelet, member of the academy of ſciences, had taken the ſuperintendance of this branch upon himſelf, is to inſpire the greateſt confidence in its accuracy, as well as in that of the tables and charts which reſult from it.

If the journal do not always agree with the log-book and the charts, it is becauſe it was not poſſible

poſſible to defer printing the journal till their complete examination. Theſe differences, moreover, are neither frequent, nor conſiderable; when they occur, the preference ought to be given to the log, and above all, to the charts which have been executed under the direction of the firſt hydrographer of the marine, Buache, member of the national inſtitute, and of the board of longitude. I owe in this place a particular acknowledgment, for the pains he has been good enough to take upon himſelf, in order to ſecond me in this important part.

Throughout the whole courſe of the work, the longitudes in which the meridian is not expreſſed are reckoned from that of Paris*.

I have endeavoured to be very exact in writing proper names, and names of places; but theſe laſt varying conſiderably, according to the native language of their different authors, it has been neceſſary to adopt, in writing theſe words, the moſt generally received orthography.

The fourth volume is compoſed of notes and detached pieces, forwarded to government, by the men of ſcience, employed in the expedition,

* The Engliſh reader is doubtleſs aware, that the meridian of Paris is ſituate 2° 20′ eaſt of that of London. The difference conſequently of the longitudes mentioned in the voyage, and expreſſed in the Engliſh atlaſſes, will be reconciled by the ſubtraction or addition of thoſe 2° 20′. *Tranſlator.*

and

and of thoſe which I could otherwiſe collect together. With this view, I made applications both to the former academy of ſciences, and ſuch individuals, as I ſuſpected to have had correſpondence with the aſſociates of La Pérouſe, in order to gather together whatever might have been ſent: they were, however, fruitleſs; I have only been able to procure ſome ſcattered fragments, which were found in the *Journal de Phyſique*, and I loſt no time in putting them together in this volume.

I have in the courſe of the work, added notes wherever I thought they might be uſeful, diſtinguiſhing them by the initial letters of the words *French Editor*.

For the facility of turning to any particular ſubject, I have added an index at the end of the work.

The number, the ſize, and the beauty of the engravings and charts, determined me to collect them in a ſeparate atlas, and of a larger form. I thought that a national work, executed with ſo much care, merited this precaution for its preſervation. If it be not generally approved of, I ſhall only obſerve, that ſuch is the ſize of the fine edition, of *Cook's Third Voyage*, publiſhed by the order and at the expence of the Engliſh government.

To

To bring this work at laſt to a completion, I have been obliged to give out the drawings and deſigns to a greater number of engravers, than the eminent ones, to whom they were firſt entruſted: thence has reſulted an inevitable want of uniformity and of perfection; I have, however, neglected nothing to render it as little perceptible as poſſible.

On the whole, if this work be ſuch as might have been expected from the materials which have been put into my hands, after the unexpected loſs of our circumnavigators, my moſt agreeable recompenſe will be to have fulfilled the views of government, and to have co-operated in the monument of gratitude, which it has been deſirous of erecting to their memory.

PRE-

John Cunningham

# PRELIMINARY DISCOURSE

OF THE

## *FRENCH EDITOR.*

ALL Europe, by the favourable reception given to the accounts of modern circumnavigators, has appeared to teſtify its regard for the progreſs of ſcience and natural hiſtory; but it muſt be confeſſed, that, among the numerous admirers of works of this kind, ſome have mere amuſement in view, others, by a proud compariſon of our cuſtoms and manners with thoſe of ſavages, would eſtabliſh the ſuperiority of civilized nations over the ruder tribes of mankind. Philoſophers alone, the leaſt numerous claſs of ſociety, ſeek in them, and generally with ſucceſs, materials with which to enlarge the ſphere of their knowledge.

The narratives of voyages of diſcovery may be reckoned among the moſt intereſting books of modern hiſtory: man, naturally the lover of whatever is new and extraordinary, tranſports himſelf in thought to diſtant regions; he identifies himſelf, as it were, with the navigator; he ſhares in his dangers, his pains, and his pleaſures, and becomes his inſeparable companion, by the diverſity of the objects which attach him, and gratify his curioſity.

Under

Under this latter point of view, there is no doubt, but that extracts from voyages, such as Prevost has given us, disengaged from all the wearisome and dry details concerning astronomy and navigation, are more agreeable to read than the originals; but these extracts are not the source, whence the mariner and the man of science can expect to draw knowledge, because the materials having thus passed the crucible of the man of letters, come out sparkling, light, and deprived of the solid principle of science, which is destroyed by being altered.

The authors or translators of works of the nature of this we now offer to the public, have almost always given an account of preceding discoveries. They thus presented to the view a general sketch of the successive acquisitions to geography, and at the same time exhibited a catalogue of the works in which they are contained. I shall not repeat a detailed enumeration, which may be found elsewhere, but shall limit myself to the giving a complete chronological list of the navigators, to whom we owe discoveries in the South Sea.

| | Years. |
|---|---|
| MAGELLAN, a Portuguese, in the service of Spain, | 1519 |
| GARCIA DE LOAES or LOAYSA, ditto, ditto, | 1525 |
| ALPHONSO DE SALAZAR, a Spaniard, | 1525 |
| ALVAR SAVAEDRA, ditto, | 1526 |
| FERDINAND GRIJALVA, and ALVAREDO, ditto, | 1537 |
| GAETAN, ditto, | 1542 |

ALVAR

ALVAR DE MENDANA, a Spaniard, 1567
JUAN FERNANDEZ, ditto, 1576
DRAKE, an Engliſhman, 1577
THOMAS CAVENDISH, ditto, 1586
Sir RICHARD HAWKINS, ditto, 1594
ALVAR DE MENDANA, a Spaniard, 1595
OLIVIER DE NOORT, a Dutchman, 1598
PEDRO FERNANDEZ DE QUIROS, and LUIS VAES DE TORREZ, Spaniards, 1606
GEORGE SPILBERG, a Dutchman, 1614
LE MAIRE and SCHOUTEN, Dutchmen, 1616
L'HERMITE, a Dutchman, 1623
ABEL TASMAN, ditto, 1642
ANTOINE LA ROCHE, a Frenchman, 1675
COWLEY, an Engliſhman, 1683
DAMPIER, ditto, 1687
DAVIS, ditto, 1687
JOHN STRONG, ditto, 1689
GEMELLI CARRERI, a Neapolitan, 1693
BEAUCHENE GOUIN, a Frenchman, 1699
WILLIAM FUNNELL, an Engliſhman, 1703
WOODS-ROGERS, ditto, 1708
LOUIS FEUILLE'E, a Frenchman, 1708
FRE'ZIER, ditto, 1712
GENTIL DE LA BARBINAIS, ditto, 1715
JOHN CLIPPERTON and GEORGE SHELVOCKE, Engliſhmen, 1719
ROGGEWEIN, a Dutchman, 1722
ANSON, an Engliſhman, 1741
LE HEN-BRIGNON, a Frenchman, 1747
BYRON, an Engliſhman, 1764
WALLIS, ditto, 1766
CARTERET, ditto, 1766

| | |
|---|---|
| PAGE's, a Frenchman, | 1766 |
| BOUGAINVILLE, ditto, | 1766 |
| COOK, an Engliſhman, | 1769 |
| SURVILLE, a Frenchman, | 1769 |
| MARION and DU CLESMEUR, Frenchmen, | 1771 |
| COOK, an Engliſhman, | 1772 |
| COOK, CLERKE, and GORE, Engliſhmen, | 1775 |

The laſt voyage of Cook was ſcarcely made known, by the tragical end of the illuſtrious chief of the expedition, when France, availing herſelf of the leiſure afforded by a peace which ſhe had juſt concluded, conſidered it as a duty annexed to her rank among the principal maritime powers, and ſtill more to her zeal and abilities for the advancement of ſcience, to plan a voyage of diſcovery, in order to concur in perfecting the knowledge of the globe, which we have ſo long inhabited. If our acquaintance with it be this day advanced; if the poſition of every one of its known parts be henceforward aſcertained; in ſhort, if every ſtep we take bring us nearer to the deſired object; we owe it to the progreſs of aſtronomy. This affords us, in the diſtance of ſtars, the movements of which are accurately determined, fixed baſes, that enable us to determine the longitude in the midſt of an immenſe ocean, with a preciſion ſufficient for the ſafety of navigation, previous to which we were obliged to ſubſtitute an almoſt arbitrary approximation, which expoſed us to the greateſt miſtakes. By theſe eſtabliſhed aſtronomical truths, we are henceforward

henceforward assured of the fruits of our expeditions, and the future perfection of Geography.

There exist means no doubt of hastening this happy result, and this is the proper place to throw out some ideas upon so important an object.—The means might be agreed upon in a Congress formed by the agents of the principal maritime powers, willing to participate in the glory of such an enterprize.

The Congress, composed of astronomers, hydrographers, and navigators, should begin by drawing up an account of all the ancient discoveries, that have hitherto been left unverified; an account of all the parts of the globe where there are still discoveries to be made or completed, of any further particulars to be inquired into; another object of their attention should be to obtain a table of the seasons, of the prevailing winds, of the monsoons, currents, refreshments, and succour to be hoped for in every latitude of the two hemispheres.

According to this arrangement, general instructions should be drawn up for the use of the commanders in each expedition; and to prevent the useless trouble of many projects, tending to the same end; the whole of the discoveries to be made should be divided among the maritime powers of Europe, regard being had to the pos-

ſeſſions and eſtabliſhments, which might reſpectively facilitate the enterprizes of each nation.

If England, Spain, Holland, Portugal, Ruſſia, the United States of America, and France, would defray the expence of an expedition every three years, we might be certain, that in leſs than twenty years geography would attain its utmoſt limits.

Undoubtedly France would have continued to favour the progreſs of geography, if, for ſome time paſt, intereſts of far greater importance, and an expenſive war to ſupport theſe intereſts, had not wholly occupied her, and contracted all her exertions; but peace, by recalling, in a great meaſure, the attention of government to the ſciences and arts, promiſes us new expeditions for their benefit.

When theſe enterprizes are taken up in an enlarged view, all the ſciences are gainers by them. Although the philoſopher be in a great meaſure ſtationary, the great reſults of voyages become not leſs a part of his domain; ready in collecting the obſervations of the navigator, he poſſeſſes himſelf of his ideas, unfolds them, and by analyzing and claſſing the ſenſations which have given birth to them, connects them to the general ſyſtem, thus communicating new life to every part of ſcience.

If

If navigation, thus enlarged, may be expected to contribute powerfully to extend the limits of the human underſtanding, it is the part of government, with this view, to excite the exertions of ability, to reward its ſucceſs, to collect and publiſh its diſcoveries, to receive and weigh all the hints, thoughts, and views of genius, and to attract from every quarter all thoſe who, by their merit and their labours, belong to every country and to every age, without any regard to their opinions upon other ſubjects, unconnected with the great buſineſs in hand.

This plan would naturally involve the examination of ſome important queſtions in geography, and eſpecially that of an univerſal meridian; for there is not a geographer, who has not experienced the inconvenience of the variety of meridians. It is neceſſary to be perpetually on our guard againſt miſtakes; the ſmalleſt compariſon to eſtabliſh between the meridians rendering it neceſſary to add or ſubtract. This evil comes from navigators having each employed, in the formation of their charts, the meridian adopted by their nation, and they have often adopted a peculiar one for themſelves. On the other hand, ſome, to mark their longitudes, have taken their departure from the weſt; others from the eaſt, counting to 360 degrees. The reſt, and thoſe the greater number among the moderns, have divided their longitudes

into eaſt and weſt; but the difference between the obſervatories of Europe being the ſame with the meridians of their antipodes, it follows, that, by this diviſion between eaſt and weſt, a longitude would be, as in our hemiſphere, eaſt to one, while it would be weſt to the other. Thence many errours have ariſen, which would be avoided in reckoning uniformly the longitudes to 360 degrees, and agreeing to take a departure from the weſt. The only objection againſt this way of reckoning is, that it does not give conſtantly, by the progreſſion of degrees, an idea of the diſtance; that is to ſay, that as far as 180 degrees, the meridian of the antipodes, we are fully ſenſible that the degrees mark the diſtance, but going on from this point, every one does not immediately conceive, that at 200 degrees of longitude he is leſs diſtant from the meridian whence the reckoning began, than at 180; whereas, in ſaying 160 degrees of eaſt longitude, inſtead of 200 degrees of longitude, he immediately perceives where he is.

It muſt be confeſſed, that the objection againſt reckoning to 360 degrees is a very weak one, conſidering at the ſame time the merit of a mode of proceeding ſo ſimple, and ſo little liable to miſtake; a merit not to be concealed by thoſe few perſons who will not give themſelves time to learn or judge of the very little diſtance between their own meridian and that which is 359° 59′ diſtant

diſtant from it. The advantage which reſults from the manner of counting the longitude up to 360 degrees is nevertheleſs a trifle, compared with that of the adoption of a common meridian, which ſhould ſerve as a baſis to the geography of all nations. It is eaſy to conceive, that the ſelf-love of every one will, without end, ſtruggle to gain for its own the preference. Every conſideration laid aſide, the meridian that would appear the moſt convenient to take, inaſmuch as it would cut very little earth, and would leave the meridians of the maritime powers of Europe on the eaſt, would be that of the remarkable peak, which nature ſeems to have placed in the middle of the ſeas, to ſerve as a beacon to navigators; I mean the Peak of Teneriffe. A pyramid, conſtructed at the expence of the aſſociated powers, ſhould be raiſed to a point through which the meridional line ought to paſs, and a commiſſion of aſtronomers, choſen from among the members of the propoſed union, ſhould determine, by a ſeries of operations, the exact difference between this common meridian, and that of the great obſervatories of the two hemiſpheres.

Theſe operations, to which the amplitude of our means might enſure the greateſt accuracy, would remove every uncertainty of calculation concerning the quantity to be added or ſubtracted, in the compariſons of meridian with meridian;

they would do away the differences produced in the results of their comparisons obtained at various periods, and which might be taken for errours, if it were forgotten, that the astronomers, after fresh observations made with more care and better instruments, have changed the product of distance between the meridians of the observatories of Paris and of Greenwich. This difference, which was reckoned 2° 19′, has been acknowledged to be 2° 20′; if it were a question, indeed, of extreme precision, it would be necessary to carry it to 2° 20′ 15″, or 9′ 21″ of time, on account of the oblate figure of the earth, in supposing it at $\frac{1}{300}$, agreeably to the observations of the astronomer Lalande, whose merit every one knows, and whose calculations unite perspicuity with precision in a high degree. The idea of a common meridian, which I have prefixed to another work, occurred to me by the reflections, which the examination and methodising of this suggested to me; it may possibly not be well received, but I may be allowed to express my wish for its adoption, until the inconveniences, if any there be, are demonstrated.

This new meridian leaves at least our immense materials of geography in their full value; if this were not the case, it should be rejected, as I reject for the present, though with considerable regret, that of the new division of the circle, because it is accompanied with the serious evil of almost wholly destroying

ſtroying them: it may be neceſſary to explain this, which is by no means foreign to my ſubject. More partial than any one to decimal calculation, treated of with ſo much accuracy in the writings of the ingenious and learned Borda, as well as in thoſe of other members of the temporary commiſſion of weights and meaſures, I cannot however diſſemble the inconveniences of the diviſion of the circle into 400 degrees. They are ſuch as can only be gotten over in the courſe of many centuries after the era in which it is univerſally adopted, during which it will be neceſſary to retain both diviſions, to facilitate the labour of comparing our new charts with thoſe of other nations and powers, and with the old materials of geography.

If the portion of time known by the name of a day require the decimal diviſion, the ſun, in his annual revolution, cannot be included in the plan; ſince then there is a limit in nature where decimal calculation ſtops, and it cannot divide the period of a ſolar revolution, why ſhould it be adapted to the diviſion of a circle?

It will be ſaid, that this diviſion of the circle into 400 degrees conforms perfectly with that of the day into 10 hours, the hour into 100 minutes, and the minute into 100 ſeconds, making a degree of the circle correſpond with two minutes and a half of time; it may further be obſerved, with reaſon, that the baſis of all meaſures, denominated

*mètre*,

*mètre*, being multiples of the ten-millionth part of the quarter of a meridian, thence there refults a natural decimal diviſion, ſince the degree is found to have a hundred thouſand mètres, or twenty leagues, of five thouſand métres each: but theſe advantages, and that of offering in general an uniform ſcale in the degree and its ſubdiviſions, cannot do away the inconveniences that would refult from the propoſed change.

The great deſign of bringing about an uniformity of weights and meaſures has given birth to the ſublime idea of diſcovering a natural ſtandard. This ſtandard is preciſely ſuch, in fact, as we ſhould find among an enlightened though newly-diſcovered people, if they had made the ſame progreſs in the arts and ſciences, and if they had, like us, conceived the project of eſtabliſhing an uniformity of weights and meaſures, and taking their general ſtandard from nature.

What occaſion could be more favourable for diſcuſſing the advantages and inconveniences in the adoption of the uniformity of weights and meaſures, and of the decimal diviſion, than that of a congreſs compoſed of repreſentatives of the moſt renowned and learned ſocieties in the world? If the various governments agreed to admit this uniformity in caſes where it ſhould be deemed uſeful, its ſimultaneous and univerſal admiſſion would double the benefit; and this would be the ſureſt way of overcoming the difficulties ariſing from

from its application to the diviſion of the circle, and of time.

What nation better than France could henceforward by her influence, as extended as powerful, realize the plan of this congreſs? As great in her enterprizes as in her conceptions, in her operations as in her views, ſhe had determined, as I have ſaid, to order a voyage of diſcovery; the plan drawn up was adopted by the government; the preliminary inſtructions will prove, that it was as vaſt as ſkilfully conceived in its extent, and in its details. An able chief was neceſſary for commanding the expedition; La Pérouſe was choſen. His toils and his conſtant ſucceſs in the navy had inured him to every ſpecies of danger, and pointed him out as more proper than any one elſe, to follow the difficult and dangerous courſe of a long navigation upon unknown ſeas, and in the midſt of countries inhabited by barbarous people. On this ſubject a few particulars are offered to the reader, concerning the life of this illuſtrious but unfortunate officer.

Jean-François Galaup de La Pérouſe, *chef d'eſcadre*, was born at Albi, in 1741. Entering at a very early age into the marine ſchool, his enthuſiaſm was firſt excited by the example of thoſe celebrated navigators, who had done honour to their country, and he took from that time the reſolution to walk in their ſteps; but, being only

only able to advance in this difficult road by ſlow degrees, he prepared himſelf, by previouſly ſtudying their works, hereafter to equal them. He united, at a very early period, experience with theory; he had been eighteen years at ſea when the command of the laſt expedition was intruſted to him.

He entered as midſhipman, the 19th of November, 1756, and ſerved five years at ſea, during that war, the firſt four on board le Célèbre, la Pomone, le Zéphyr, le Cerf, and the fifth on board le Formidable, commanded by Saint-André du Verger. This ſhip made one in the ſquadron, under the orders of Marſhal de Conflans, when it was met off Belle Iſle by the Engliſh ſquadron. Le Magnifique, le Héros, le Formidable, compoſing the rear-diviſion, were attacked and ſurrounded by eight or ten Engliſh ſhips. The fight began, and ſoon became general; it was ſo terrible, that eight men of war, Engliſh or French, were ſunk during the action, or ran upon the French coaſts, where they were obliged to be burnt. Le Formidable, more roughly handled than the reſt, was the only one taken, after a vigorous reſiſtance. La Pérouſe conducted himſelf with great bravery in this action, in which he was ſeverely wounded.

Reſtored again to his country, he ſerved in the ſame capacity, three years longer, on board le Robuſte, where he diſtinguiſhed himſelf on many occaſions;

occaſions; and his growing merit began to draw upon him the eyes of his ſuperior officers.

The firſt of October, 1764, he was promoted to the rank of *enſeigne de vaiſſeau*. A man of a leſs active diſpoſition would have availed himſelf of the indulgence of the peace, but his ardour for the profeſſion allowed him no repoſe. To judge of his unwearied activity, it is ſufficient to ſketch a ſlight picture of his naval life, from this epoch to 1777. He ſerved

In 1765, on board the flute l'Adour;
1766, on board the flute le Gave;
1767, as commander of the flute l'Adour;
1768, as commander of la Dorothée;
1769, as commander of le Bugalet;
1771, on board la Belle-Poule;
1772, *Ibid.*
1773, 1774, 1775, 1776, 1777, commanding the flute la Seine & les Deux-Amis, off the coaſt of Malabar; lieutenant from the 4th of April, 1777.

In the year 1778 the war broke out again between France and England; hoſtilities commenced, the 17th of June, by an engagement with la Belle-Poule.

In 1779, La Pérouſe commanded L'Amazone, one of the ſhips in the ſquadron of D'Eſtaing. Deſirous of covering the deſcent of the troops, at the

the Iſland of Grenada, he anchored within piſtol-ſhot of an Engliſh battery. During the battle between this ſquadron and that of admiral Byron, he was fixed upon to carry the orders of the commander in chief along the line. After this he took, on the coaſt of New England, the Ariel frigate, and contributed to the capture of the Experiment.

Being made a captain the 4th of April, 1780, he commanded the frigate L'Aſtrée, when, being on a cruize with L'Hermione, commanded by captain La Touche, he fought an obſtinate battle, on the 21ſt of July, with ſix Engliſh ſhips of war, ſix leagues from the North Cape of the Iſle Royale. Five of theſe ſhips, the Allegiance, of twenty-four guns, the Vernon, of the ſame force, the Charleſtown, of twenty-eight, the Jack, of fourteen, and the Vulture, of twenty, formed a line to receive him; the ſixth, the Thompſon, of eighteen, remained out of gun ſhot. The two frigates bore down together upon the enemy, under a crowd of ſail; it was ſeven o'clock, in the evening, when they fired the firſt ſhot. They ranged along to leeward of the Engliſh line, in order to cut off their retreat. The Thompſon remained all the time to windward. The two frigates manœuvred with ſo much ſkill, that they threw the little Engliſh ſquadron into diſorder; in about half an hour the Charleſtown frigate,

commodore, and the Jack, were forced to surrender, and the three other veſſels would have experienced the ſame fate, if the night had not concealed them from the purſuit of the frigates.

The following year the French government formed the project of taking and deſtroying the eſtabliſhments of the Engliſh in Hudſon's Bay. La Pérouſe appeared a proper officer to accompliſh this troubleſome miſſion, in a dangerous ſea; he received his orders to quit Cape François the 31ſt of May, 1782. He commanded the Sceptre, of 64 guns, and was followed by the two frigates L'Aſtrée and L'Engageante, of 36 guns each, commanded by captains de Langle and La Jaille; the land forces on board theſe ſhips conſiſted of two hundred and fifty infantry, forty artillery men, four field pieces, two mortars, and three hundred bombs.

The 17th of July, he made Reſolution Iſland; but no ſooner had he penetrated twenty-five leagues into Hudſon's Straits than he found his ſhips entangled with ice, from which he received conſiderable damage.

The 30th, after having ſtruggled inceſſantly againſt obſtacles of every kind, he made Cape Walſingham, ſituate in the moſt weſterly part of the Straits. In order to arrive ſpeedily at Prince of Wales's Fort, which he had propoſed firſt to attack, he had not a moment to loſe, the rigour

rigour of the season obliging all vessels to quit this sea at the beginning of September; but no sooner had they entered Hudson's Bay, than they met with thick fogs: and on the 3d of August, at the first clearing up of the weather, he found himself surrounded with ice as far as he could see, which obliged him to lie to. Nevertheless he overcame these obstacles, and on the 8th, in the evening, having discovered the flag on Prince of Wales's Fort, the French ships ran by their lead within a league and a half of it, and anchored in eighteen fathom water, muddy ground. An officer, sent to reconnoitre the approaches to the fort, brought word, that the ships might bring up, with their guns to bear on it, at a very little distance. La Pérouse, making no doubt, that the Sceptre alone could easily reduce the enemy should they resist, prepared for effecting a descent during the night. Although counteracted by the tide and the darkness, the boats unopposed approached within three quarters of a league of the fort. La Pérouse, seeing no disposition for defence, although the fort appeared to him capable of a vigorous one, sent a summons to the enemy; the gates were opened; the governor and garrison surrendered at discretion.

This part of his orders being executed, he sailed the 11th of August for Fort-York; he experienced

rienced ſtill greater difficulties to get there, than any he had yet met with in this expedition; he ran, in ſix or ſeven fathom water, along a coaſt ſcattered over with rocks. After having run the greateſt riſks, the Sceptre and the two frigates diſcovered the entrance of Nelſon's River, and anchored, the 20th of Auguſt, about five leagues from land.

La Pérouſe had taken three decked boats at Prince of Wales's Fort; he ſent them with the Sceptre's yawl to gain information of Hayes's River, near which Fort York is ſituated.

The 21ſt of Auguſt, the troops embarked in the boats; and La Pérouſe, having nothing to fear from the enemy by ſea, thought proper to ſuperintend their debarkation.

Hayes's Iſland, on which ſtood Fort York, is ſituate at the mouth of a great river, which it divides into two branches; that which paſſes before the fort, is called Hayes's River, and the other Nelſon's River. The French commander knew, that all the means of defence were erected upon the firſt; there was beſides one of the Hudſon's Bay Company's veſſels, carrying twenty-five nine pounders, anchored at the mouth. He reſolved to puſh up by Nelſon's River, although his troops had on this ſide to march about four leagues; but he obtained the advantage of rendering the batteries, which were placed upon Hayes's River, uſeleſs.

They arrived the 21ſt, in the evening, at the mouth of Nelſon's River, with two hundred and fifty men, with the mortars and guns, and proviſion for eight days, in order not to be compelled to have recourſe to the ſhips, with which it was difficult to communicate. La Pérouſe gave orders for the boats to anchor in three fathom, at the entrance of the river, and he advanced in his boat, with De Langle, the ſecond in the expedition, Roſtaing, the commander of the troops, and Monneron, the captain of engineers, in order to ſound the river, and inſpect its banks, where it was feared the enemy might have raiſed ſome works of defence.

They diſcovered, that the bank was not of eaſy acceſs; the ſmalleſt boats could only get within two hundred yards of it, and that the intervening ground was a ſoft mud. He then thought it proper to wait for day, and remain at anchor: but the ebb running out much faſter than they had expected, the boats were diſcovered to be aground at three o'clock in the morning.

Exaſperated rather than diſcouraged by this accident the troops debarked, and, after having walked near a mile up to the mid-leg in mud, they arrived in a meadow, where they drew up in order of battle; thence they marched towards a wood, where they expected to find a dry path which

which might lead them towards the Fort. None was found, and the whole day was employed in ſeeking for that which did not exiſt.

La Pérouſe ordered Monneron, the captain of engineers to trace out one, by the compaſs, through the middle of the wood. This difficult labour being executed, ſerved only to make it evident, that there were two leagues of marſhy ground to croſs, in doing which the troops would often ſink up to the knees. A hard gale of wind coming on, in the night, obliged the anxious Pérouſe to rejoin his ſhips. He reached the ſea ſide with all haſte; but the ſtorm continuing, he could not get aboard. The next morning he took advantage of a lull, and found means to get on board an hour before a ſecond gale. An officer, who ſet off at the ſame time, was wrecked, but, together with the crew, had the good fortune to get on ſhore; yet he was unable to return on board in leſs than three days, naked and almoſt dead with hunger. The Engageante and the Aſtrée loſt two anchors each in the ſecond gale.

However, the troops arrived before the fort the 24th in the morning, after a very fatiguing march, and it ſurrendered at the firſt ſummons. La Pérouſe cauſed the fort to be demoliſhed, and gave orders to the troops to re-embark without delay.

This laſt order was fruſtrated by another ſtrong gale of wind, which expoſed the Engageante to imminent danger; her third anchor broke, as well as the tiller, and her long-boat was loſt. The Sceptre loſt alſo her long-boat, yawl, and anchor.

At length the fine weather returned, and the troops re-embarked. La Pérouſe having the governors of Prince of Wales and York Forts on board, ſet ſail, in order to quit a coaſt abandoned to ice and tempeſts, where his military ſucceſs, though unoppoſed by the ſlighteſt reſiſtance, yet nevertheleſs had been preceded by ſo many difficulties, fatigues, and dangers.

If La Pérouſe, as a military man, were obliged, in conformity with rigorous orders, to deſtroy the poſſeſſions of his enemies, he did not forget, at the ſame time, the reſpect that was due to misfortune. Having known, that at his approach the Engliſh had fled into the woods, and that his departure, on account of the deſtruction of their ſettlements, would expoſe them to die with hunger, or fall defenceleſs into the hands of the ſavages, he had the humanity to leave them proviſion and arms.

Can there be, on this ſubject, an eulogium more flattering, than the following ſincere declaration of an Engliſh ſeaman, in his account of a voyage to Botany Bay?—"We ought to call to "mind with gratitude, in England eſpecially, this

"humane

" humane and generous man, for his conduct, " when ordered to deſtroy our eſtabliſhment in " Hudſon's Bay, in the courſe of the laſt war." After a teſtimony ſo juſt and true, and whilſt England has deſerved ſo well of the friends of ſcience and the arts, by her eagerneſs to publiſh the accounts of her voyages of diſcovery, ſhall we be compelled to reproach another Engliſh officer for a breach of his engagements with La Pérouſe.

Governor Hearne had made a journey by land, in 1772, towards the north, commencing it from Fort Churchill in Hudſon's Bay, a journey of which the particulars are looked for with impatience; the manuſcript journal of it was found by La Pérouſe among the papers of this governor, who inſiſted upon their being left in his poſſeſſion as private property. This journey having been nevertheleſs undertaken by order of the Hudſon's Bay Company, with the view of acquiring knowledge in the northern part of America, the journal might well have been deemed to belong to this Company, devolving in conſequence to the victor; nevertheleſs, La Pérouſe gave way to the intreaties of governor Hearne, and allowed him to retain the manuſcript, but on the expreſs condition, that he ſhould have it publiſhed as ſoon as he returned to England. This condition appears not to have been performed even to this moment*.

* It was publiſhed in 1795, though apparently not in conſequence of this promiſe. T.

Let us hope, that this remark, rendered public, will produce the intended effect, or urge the governor to make it known, whether the Hudſon's Bay Company, who dread that others ſhould interfere in their commerce and affairs, have prevented its publication*.

At the time of the eſtabliſhment of the peace with England, in 1783, this expedition ended. The indefatigable La Pérouſe enjoyed not a long repoſe, a more important ſervice awaited him; alas! it was deſtined to be the laſt. He was appointed to command the expedition projected in 1785, preparations for which were forwarding at Breſt.

I ſhall not conform to a practice that is very common, in pointing out, beforehand, the track of our navigator, the coaſts and the iſlands that he has explored or viſited in the main ocean, the diſcoveries which he has made in the Aſiatic ſeas, and the important benefits he has rendered to geography: I make this ſacrifice to the reader, whoſe curioſity would rather be excited than anticipated, and who would prefer, without doubt, following the courſe of the navigator himſelf.

So far I have conſidered in La Pérouſe only the warrior, and the navigator: but he deſerves equally to be known for his perſonal qualities; for he was not leſs calculated to conciliate the

* The above anecdote was unknown to me, when I wrote the note which will be ſeen in vol. II, page 161.

men

men of every country, or to make himſelf reſpected by them, than to foreſee, and to conquer the obſtacles, which it is allotted to human wiſdom to ſurmount.

Uniting in himſelf the vivacity peculiar to the inhabitants of warm climates, with an agreeable wit, and an equal temper, his mildneſs and his amiable gaiety made his company always ſought after with eagerneſs: on the other hand, matured by long experience, he joined to uncommon prudence a firmneſs of character, which is the characteriſtic of a ſtrong mind, and which, increaſed by the hardſhips of a ſeaman's life, rendered him qualified to attempt, and to conduct the greateſt enterprizes with ſucceſs.

After the combination of theſe various qualities, the reader, witneſſing his patience in circumſtances requiring great labour, the ſevere reſolutions that his foreſight dictated, the caution he was obliged to exerciſe towards his people, will be little aſtoniſhed at the benevolent and moderate, as well as circumſpect conduct of La Pérouſe towards them; of the confidence, ſometimes even of the deference he paid to his officers, and of his paternal care towards his ſhips companies; nothing that could intereſt them, either by relieving their hardſhips or contributing to their happineſs, eſcaped his watchfulneſs, and ſolicitude. Not willing to make of a mercantile

ſpeculation, a ſcientific enterprize, and, reſigning the whole profits of trade to the ſailors alone, he reſerved to himſelf the ſatisfaction of having been uſeful to his country, and to the ſciences. Perfectly ſucceeding in his views, with regard to the preſervation of their health, no navigator has ever made ſo long a voyage, under ſuch inceſſant changes of climate, with crews ſo healthy; ſince, at their arrival at New Holland, after thirty months ſailing, and a run of more than ſixteen thouſand leagues, they were as well as at leaving Breſt.

Maſter of himſelf, and never ſuffering firſt impreſſions to carry him away, he was enabled to practice, eſpecially in this voyage, the precepts of a philoſophical humanity. If I were more diſpoſed to make his eulogy, neceſſarily detached and incomplete, than to leave the reader the pleaſure of appreciating him by facts, accompanied with all their circumſtances, and to eſtimate him by the general tendency of his writings, I could cite a crowd of paſſages from his journal, the turn and character of which I have faithfully preſerved, which ſhow the man: I could eſpecially point out his attachment to that article of his inſtructions, engraven on his heart, which ordered him to avoid ſhedding a ſingle drop of blood; having followed it conſtantly in ſo long a voyage, with a ſucceſs becoming his principles,

and

and when, attacked by a barbarous horde of ſavages, he had loſt his ſecond in command, a naturaliſt, and ten men of the two ſhips companies, repreſſing the powerful means of vengeance he had in his hands, and ſo many warrantable motives for uſing them, I would ſhow him, reſtraining the fury of the crews, and fearing to ſtrike one ſingle innocent victim, among ſo many thouſands of criminals.

As equitable and modeſt as he was enlightened, we ſhall ſee with what reſpect he ſpoke of the immortal Cook, and how deſirous he was to render juſtice to thoſe great men, who had run the ſame career.

Equally juſt towards all, La Pérouſe, in his journal, and in his correſpondence, diſpenſes with equity the praiſes, which were due to his aſſociates:—he names alſo the ſtrangers, who, in different parts of the world, have favourably received them, and procured them aſſiſtance. If government, of whoſe diſpoſition we cannot entertain a doubt, would fulfil the intentions of La Pérouſe, it would confer upon theſe latter, a mark of public gratitude.

Juſtly prized by the Engliſh ſeamen, who had an opportunity of becoming acquainted with him, they have evinced an unequivocal eſteem for him, in their writings. All thoſe who were in habits of intimacy with him, have given him praiſes, which,

which, though juſt, would be too long to recount.

But to ſpeak of his virtues, and of his talents, is to recollect his misfortunes, and to awaken our regret: the idea of the former is henceforward inparably connected with the remembrance of the latter, and they raiſe for ever a monument of grief and gratitude, in the heart of every friend to the ſciences and to humanity. If I have experienced any pleaſure at the concluſion of the troubleſome labour which this work required, and after the care and attention it has coſt me till its publication; it is, undoubtedly, at this moment, when I am allowed to be the inſtrument of the French Republic, in paying to his memory a tribute of national gratitude.

La Pérouſe, according to his laſt letters from Botany Bay, was to return to the *Iſle de France*, in 1788*. The two following years being expired, even the important events, which occupied and fixed the attention of all France, were unable entirely to detach it from an intereſt in the fate which appeared to threaten our navigators. The firſt accents of fear and grief on their accounts were heard at the bar of the national aſſembly,

* See in Vol. III the extracts from two of La Pérouſe's letters, dated Botany Bay, the 7th of February, 1788.

by

by means of the members of the ſociety of natural hiſtory.

" During two years," ſaid they, " France has " in vain expected the return of M. De La Pé- " rouſe; and thoſe who intereſt themſelves in " his perſon, and in his diſcoveries, have no " knowledge of his fate. Alas! their appre- " henſions are perhaps more frightful than his " actual ſufferings; and probably he has only " eſcaped death, to be delivered up to the con- " tinued torments, of a hope, always renewed, " and always diſappointed; perhaps he has been " caſt away upon ſome one of thoſe iſlands of " the South Sea, whence he ſtretches out his arms " towards his country, and fruitleſsly expects a " deliverer.

" It is not for objects frivolous in their nature, " for his own advantage, that M. De La Pérouſe " has braved dangers of every kind: the gene- " rous nation, which was to gather the fruit of " his toils, owes him alſo its intereſt and its ſuc- " cour.

" Already have we learned the loſs of ſeveral " of his companions, ſwallowed up by the waves, " or maſſacred by the ſavages: cheriſh the little " hope, which remains of gathering together " thoſe of our brothers, who may have eſcaped " the fury of the billows, or the rage of can- " nibals; let them return to our ſhores, though

" they

" they ſhould die with joy at ſeeing their country " free."

The requeſt of the ſociety of natural hiſtory, received with the moſt lively intereſt, was followed up by a law, ordering two frigates to be immediately fitted out in ſearch of La Pérouſe.

The reaſons upon which the decree was founded, even the wording of the report, evinced what a tender and affecting concern our navigators had inſpired; and the eagerneſs with which, in the deſire of recovering them, the firſt glimpſe of hope was entertained, without thinking of the great ſacrifices the purſuit required.

" For a long while our ardent wiſhes have " called for M. De La Pérouſe, and the compa- " nions of his glorious, but too probably unfor- " tunate voyage.

" The ſociety of naturaliſts of this capital is " come to tear the veil, which you were afraid to " raiſe; the grief of which it has given the ex- " ample is become univerſal, and you appeared " to receive with tranſport the idea which it ſug- " geſted of ſending out veſſels in ſearch of M. De " La Pérouſe.

" You have ordered your committees of ma- " rine, of agriculture, and of commerce, to pre- " ſent to you their thoughts upon this intereſting " ſubject: the ſentiment which appeared to ac- " tuate you has alſo dictated our opinion.

" We

" We have hardly the conſolation to doubt " that M. De La Pérouſe has experienced ſome " great misfortune.

" We cannot reaſonably hope, that his veſſels " at this moment plough the ſurface of the ſeas: " either this navigator and his companions are no " more; or elſe, thrown upon ſome frightful " ſhore, loſt in the immenſity of unknown ſeas, " and confined in the extremities of the world, " they perhaps ſtruggle againſt the climate, " againſt wild beaſts, againſt men, againſt nature, " and call their country to their aid, which can " only form a gueſs concerning their miſery. " Poſſibly they have been thrown upon ſome un- " explored unknown coaſt, upon ſome barren " rock; there, if they have met with a hoſ- " pitable people, they yet live, and implore your " aſſiſtance; or if they have only met with a " deſert, perhaps wild fruits, ſhell fiſh, ſuſtain " their exiſtence: fixed to the ſhore, their " looks loſe themſelves in diſtance upon the ſea, " in endeavouring to diſcover the happy ſails, " which might reſtore them to France, to their " relations, to their friends.

" Compelled to catch at an idea, which is " perhaps only a conſoling error, you are de- " ſirous without doubt as we are to prefer this " conjecture to the hopeleſs idea of their total " loſs: it is that which the ſociety of naturaliſts

" of

" of Paris came to preſent to you; it is that " which M. De La Borde had offered to every feel- " ing heart, in a memoir to the academy of " ſciences.

" But if this idea touch you, if it ſtrike " you, you cannot henceforward give yourſelves " up to an impotent regret; humanity demands " of us to fly to the aſſiſtance of our brethren.

" Alas! where look for them? Whom ſhall we " aſk concerning their condition? Can we ex- " plore all the coaſts of a ſea almoſt unknown? " Can we touch at all the iſlands of thoſe im- " menſe archipelagoes, which offer ſo many dan- " gers to navigators? Can all the gulfs be exa- " mined, all the bays penetrated? And even if " we ſhould be fortunate enough to touch at the " iſland which conceals them, may we not even " then, perhaps, fail to diſcover them?

" Without doubt the difficulties are great, ſuc- " ceſs is ſcarcely to be expected: but the motive " for the enterprize is powerful; it is poſſible, that " our brothers may yet be alive, we may yet re- " ſtore them to their country; and hence we are " not permitted to reject the temptation of a re- " ſearch, which cannot but do us honour. It is " our duty to ſhow this concern for men, who " have thus devoted themſelves; we owe it to " the ſciences, which await the fruits of their re- " ſearch; and that which ought to increaſe this

" concern is, that M. De La Pérouſe was not one
" of thoſe adventurers, who catch at great enter-
" prizes, whether for the purpoſe of advancing
" their characters or fortune; he was not even
" ambitious of commanding the expedition en-
" truſted to him, he wiſhed to have been able to
" decline it; and even when he accepted the
" command, his friends knew he did but reſign
" himſelf. Happily we know the courſe, that it
" is neceſſary to follow in ſo painful a reſearch;
" happily we can put into the hands of thoſe,
" who are to be charged with this affecting miſ-
" ſion, the clue of the perilous labyrinth.

" The propoſal of a ſearch, which humanity
" commands, cannot be brought to this tribune
" to be combated by parſimony, or diſcuſſed by
" cool reaſon, when it ought to be judged by
" ſentiment.

" This expedition will be the moſt glorious re-
" compenſe to M. De La Pérouſe, or to his me-
" mory, with which you can honour his labours,
" his ſacrifices, or his misfortunes.

" By acts like theſe a nation is illuſtrated; and
" the ſentiments of humanity which prompt them,
" will characterize our age. It is no longer for
" the purpoſe of invaſion and ravage, that the
" European penetrates into the moſt diſtant lati-
" tudes, but to carry thither enjoyments and be-
" nefits; no longer to ſteal away the corrupting

" metals,

" metals, but to obtain thoſe uſeful vegetables, " which may render the life of man more com- " fortable and eaſy. In ſhort, there will be ſeen, " and ſavage nations will not behold it unmoved, " there will be ſeen, at the extremities of the " world, pious navigators, inquiring with concern " about the fate of their brothers, of men and of " deſerts, of caves, of rocks, and even of barren " ſands: there will be ſeen on the moſt treacherous " ſeas, in the windings of the moſt dangerous " archipelagoes around all thoſe iſlands peopled by " cannibals, men wandering in ſearch of other " men to throw themſelves into their arms, to ſuc- " cour and to ſave them."

The ſhips ſent out in ſearch of La Pérouſe had ſcarcely ſailed, when a rumour was ſpread, that a Dutch captain, paſſing by the Admiralty Iſlands to the weſt of New Ireland, perceived a canoe, containing natives of that place, who appeared to him to be clothed in the uniform of the French navy.

General d'Entrecaſteaux, who commanded this new expedition, having touched at the Cape of Good Hope, had been informed of this report; notwithſtanding the ſlenderneſs of its authenticity and little likelihood, he did not heſitate a ſingle inſtant; he changed the plan of his route to haſten to the ſpot. His ardour not having been repaid with ſucceſs, he recommenced his ſearch

in the order prescribed by his instructions, and completely fulfilled them all, without being able to obtain the smallest information, or acquire any thing like probability concerning the fate of our unfortunate navigator.

There were various conjectures in France as to the cause of his loss: some persons, unacquainted with the track he had to follow from Botany Bay, which is traced in his last letter, have advanced, that his ships had been caught in the ice, and that La Pérouse, and all his companions, had perished by the most horrible of deaths; others have given out, that during his passage to the *Isle de France*, towards the end of 1788, he had been the victim of that violent hurricane, which proved so fatal to the Venus frigate, which was never heard of afterwards, and which totally dismasted the Resolution frigate.

Although we cannot deny the assertion of these last persons, we ought not on the other hand to admit it without proof. If this be not true, La Pérouse has most likely perished by streſs of weather on one of then umberless reefs of rocks, with which the archipelagoes, that he had still to explore, have been actually found by General d'Entrecasteaux to abound. The manner in which the two frigates have always sailed, being constantly within hail of each other, would have involved both of them in the same fate; they would have experi-

enced the misfortune which they ſo narrowly eſcaped on the 6th of Nov. 1786, and would have foundered before they could reach any land. The only hope which could remain would be, that they had been wrecked upon the coaſts of ſome uninhabited iſland; in this caſe, perhaps, a few individuals may ſtill exiſt upon one of the innumerable iſlands of theſe archipelagoes. At a diſtance from every uſual courſe they might have been overlooked in the ſearch, and might only be able to ſee their country again by the accidental arrival of ſome veſſel, all means of building one being probably wanting.

We nevertheleſs cannot but obſerve, that the ſavages make very long runs in ſimple canoes; and we may judge, by the inſpection of the chart, that if the ſhip had been loſt on a deſert iſland, or one inhabited by ſavages, who had ſpared the remainder of the crews, they would have been able, in the courſe of nine years, to arrive, by degrees, in a country, whence ſome tidings of them might have been received; for it is probable, that they would have attempted every thing, to get out of a ſtate of anxiety and ſolitude worſe than death. If then we be not bereft of all hope, at leaſt that which remains is very feeble. A navigator has aſſerted, that he had ſeen ſigns of the wreck of La Pérouſe; the reader may judge of the confidence that he merits, by his depoſition, which I ſhall quote

literally, without any other obſervation than comparing the author with himſelf, and placing his ſtory by the ſide of Bougainville's relation.

*Extract from the minutes of the juſtice of peace of the town and commune of Morlaix.*

"George Bowen, captain of the ſhip Albemarle, bound from Bombay to London, and carried into Morlaix, being examined whether he had had any information concerning La Pérouſe, who ſailed from France on a voyage round the world, anſwered, that in December, 1791, he himſelf perceived, on his return from Port Jackſon to Bombay, upon the coaſt of New Georgia*, in the eaſtern ocean, pieces of the wreck of a ſhip floating upon the water†, and which he judged to be of French conſtruction; that he had not been on ſhore, but that the natives of the country came on board him; that he could not underſtand their language, but by their ſigns he had comprehended, that a

* Reconnoitred by Shortland, lieutenant in the Engliſh navy, in 1788; but partly diſcovered by Bougainville, captain in the French navy, in 1768, and ſtill more by Surville, captain of a ſhip in the India Company's ſervice, who called it the land of the Arſacides. *(Fr. Ed.)*

† La Pérouſe could only have been loſt in 1788. I leave thoſe who know the effects of waves of the ſea upon a veſſel wrecked, to judge whether theſe pieces of wreck could be ſtill floating upon the water at the end of December, 1791.—*(Fr. Ed.)*

ſhip had touched on their coaſts; that the natives knew the uſe of many implements of iron, concerning which they were very curious; and that he had exchanged with them ſeveral articles of iron and glaſs ware, for bows; that with reſpect to the character of theſe Indians, they appeared to him pacific*, and better informed than the inhabitants of Otaheite, ſince they had a perfect knowledge of works in iron, and their canoes were built in a ſuperior manner; that when the natives were on board his ſhip, he had not yet diſcovered the wreck in queſtion, and that ſailing along the coaſt, he perceived it by the help of a great fire lighted upon the land near the middle of the night† of the 30th December, 1791; that without this fire he had probably run upon the rocks of Cape Deception. The deponent declares, that in all this quarter of the coaſt of New Georgia he remarked a great number of huts or cabins; that theſe Indians were of a robuſt ſtature, and of a mild diſpoſition,

* Theſe Indians, characterized as pacific, attacked the boats Bougainville had ſent on ſhore to fetch water, as ſoon as they had entered Choiſeul Bay. *(Fr. Ed.)*

† It is undoubtedly ſurprizing, that the pieces of wreck ſeen by George Bowen, and affirmed to be part of La Pérouſe's ſhip, and of French conſtruction, circumſtances which ſuppoſe them to have been of conſiderable ſize, and examined at no great diſtance, ſhould only be perceived at midnight by the flame of a fire kindled on land. *(Fr. Ed.)*

whence

whence he presumes, that if M. De La Pérouse or any of his crew be on shore there, they may still be alive* ; and that he knows, that all the ships which have navigated these coasts are those of Bougainville—the Alexander—the Friendship, of London—M. De La Pérouse—and the deponent ; that in consequence he presumed the pieces of wreck to be the remains of M. De La Pérouse's ship† ; since the Alexander foundered in the Straits of Macasser, and the Friendship arrived safe in an English port. On being asked whether he had seen any clothes upon the natives which denoted them to have had communication with Europeans, he answered, that the people were naked ; that the climate is very hot ; and that by their signs he discovered, that they had previously seen ships ; that he perceived in the possession of these Indians fishing nets, the threads of which were flax, and the meshes of European manufacture‡ ; that our

* Bougainville, obliged to repel by force the attack of these Indians, possessed himself of two of their canoes, in which he found, among other things, the jaw of a man half broiled, an evident proof that they were cannibals. *(Fr. Ed.)*

† The English captain ceases to give it as a certainty, that the pieces of wreck he perceived were the remains of La Pérouse's ship ; it now becomes simply a presumption.—*(Fr. Ed.)*

‡ Bougainville found in the canoes, which fell into his hands, nets with very fine meshes, skilfully woven ; it is probable, that the perfection of their construction led captain Cowen into a mistake. *(Fr. Ed.)*

of curiosity he took a piece of it, from which it would be easy to discover that the materials and the workmanship were European."

Such is at this time the only information we are in possession of concerning the fate of our navigator. The public indications still in existence of the track he followed, and of the places he examined, are the medals struck on occasion of his voyage, and left or distributed by La Pérouse during the course of it. He took out with him about a hundred of silver and bronze, and six hundred others of different kinds. As we know the route which he had still to perform, these medals may one day point out to us nearly in what spot his misfortune interrupted it.

The medal relative to the voyage, becoming an historical monument, and being liable to be found again one day by other navigators, I cannot refrain from making it known, though I have not thought proper to have it engraved; on one side is the effigy of the king with the common inscription; the reverse bears the following inscription encircled by two branches of olive tied together by a ribband:—

*Les Frégates du roi de France, la Bousole et l'Astrolabe, commandées par M. M. De La Pérouse et De Langle, parties du Port de Brest en Juin* 1785.

The King of France's frigates the Bousole and Astrolabe, commanded by De La Pérouse and De Langle, sailed from the port of Brest, in June, 1785.

So

So many precautions taken for the ſucceſs of a great expedition, the expence it occaſions, and the troubles and the evils it draws after it, will occaſion many prejudiced and ſyſtematic perſons to doubt whether theſe pains and cares be compenſated by the reciprocal utility, which mankind find in voyages of diſcovery.—Although I might queſtion the utility of introducing domeſtic animals, and a few farinaceous plants among ſavages, compared with the evils which reſult to them, from the falſe or ſuperficial notions that our principles ſuggeſt to them, and from the ſudden communication of our manners and our cuſtoms; I ſay, that after having given them detached notions, which they know not how either to extend or to apply, vegetables and animals which they neither preſerve nor perpetuate, then to leave them to themſelves, is to give them the knowledge and deſire of gratifications which they cannot procure, and thereby to promote their unhappineſs: but to raiſe them by degrees with the view to civilize them, to make orderly colonies before we make a poliſhed people of them, and not to give them new wants and new ways of acting, without the means of providing for the one, and beneficially ſerving themſelves by the other; is to prepare and to ſecure to their poſterity the happy fruits of the expanſion of the human faculties.

If we, as well as they, may ſuffer ſome inconveniences from our communications with them,

when our reſpective ſituations are ſo different, yet the great advantages that the arts and ſciences receive from voyages of diſcovery, cannot reaſonably be conteſted. It is the nature of civilized man to enlarge the ſphere of his knowledge and enjoyments, by the advance of his underſtanding and the enlargement of his deſires. The navigator, as he proceeds, diſcovers new and uſeful productions; determines the ſituation of different places, thus giving ſecurity to his own route and that of others; learns to judge his fellow-creatures by a greater number of compariſons; and every progreſſive movement he makes is a ſtep towards the knowledge of man and of nature. It is grand, it is beautiful, to incur expences, and to run riſks, for the wants of ſociety at large, and the growth of true riches.

If ſome philoſophers have diſapproved of voyages in general, becauſe expeditions undertaken with ambitious and intereſted views have been followed by acts of barbarity, it is becauſe theſe have been confounded with voyages of diſcovery, which have had for their object to carry benefits to our fellow creatures, and to enlarge the field of ſcience.

Theſe benefits, we ſhall perhaps be told, are the price of their blood; becauſe they cannot be kept within bounds, without employing againſt them a force, which, becoming deſtructive to the navigators themſelves, occaſions a double crime in the eyes of philoſophy and of nature.

Let

Let us conſult the navigators known by their moderation; their accounts prove to us, that, by employing the means which prudence dictates, it is eaſy to reſtrain the ſavages by the mere diſplay of force: quickly attached by benefits to navigators whom they reſpect, they are ſuſceptible of gratitude, and conſequently of every other ſentiment.

We muſt, however, do juſtice to the motive which has miſled theſe philoſophers: this reſpectable motive is humanity; we ought therefore to be of one opinion henceforward, from the conduct of our navigators, ſeeing their extreme care and caution for the life of ſavages, who deſtroy each other upon the ſlighteſt pretexts; the ferocity of theſe laſt ſoftened by civilization; and the immenſe quantity of blood ſpared by the abolition of human ſacrifices, ſo revolting, and ſo generally ſpread throughout ſavage nations.

# VOYAGE

## *ROUND THE WORLD,*

IN THE YEARS

1785, 1786, 1787, AND 1788.

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*Decree of the National Aſſembly, of the 9th of February, 1791.*

THE National Aſſembly, after having heard its united committees of agriculture, of commerce, and of marine, decrees,

That the King be entreated to give orders to all ambaſſadors, reſidents, conſuls, and national agents, at the courts of foreign powers, that they may engage thoſe different ſovereigns, in the name of humanity, and of the arts and ſciences, to charge all navigators and agents whatſoever, their ſubjects, in whatever place they may be, but eſpecially in the ſoutherly part of the South Sea, to make inquiry after the two French frigates *La Bouſſole* and *L'Aſtrolabe*, commanded by M. De La Pérouſe, as well as after their crews, and to obtain every information, which may aſcertain their exiſtence or their ſhipwreck; ſo that in caſe M. De La Pérouſe and his companions ſhould be found, no matter in what place, there be given to them every

every aſſiſtance, and all means procured for them, that they may be enabled to return to their country with whatever may belong to them; the National Aſſembly engaging to indemnify, and even to recompenſe, according to the importance of the ſervice, whomſoever ſhall lend them ſuccour, obtain news concerning them, or only reſtore to France whatſoever papers and other effects may have belonged to theſe navigators in their expedition.

It is further decreed, that the King be entreated to direct, that one or more veſſels be equipped, and ſeveral learned and experienced perſons, naturaliſts, and draughtſmen embarked therein, to the commanders of which may be given in charge the double miſſion, to ſearch after M. De La Pérouſe, according to the documents, inſtructions, and orders, that ſhall be given to them, and alſo at the ſame time to make inquiries relative to the ſciences and to commerce, taking every meaſure independantly of the purſuit after M. De La Pérouſe, and even after having met with him, or obtained news concerning him, to render this expedition uſeful and advantageous to navigation, to geography, to commerce, and to the arts and ſciences.

Compared with the original, by us Preſident and Secretaries of the National Aſſembly.

(Signed) DUPORT, Preſident.
LIORE, }
BOUSSION, } Secretaries.

Paris, 24th February, 1791.

*Decree*

*Decree of the National Aſſembly, of the 22d of April, 1791.*

The National Aſſembly decrees, that the accounts and charts ſent by M. De La Pérouſe, of that part of his voyage as far as Botany Bay, ſhall be printed and engraved at the expence of the nation, and that this expence ſhall be defrayed out of the fund of two millions, ordered by the 14th article of the decree of the 3d of Auguſt, 1790.

Decrees, that as ſoon as the edition ſhall be completed, and that as many copies are taken from them as the King would like to diſpoſe of, the ſurplus ſhall be ſent to Mad. De La Pérouſe, with a copy of the Decree, as a teſtimony of their ſatisfaction for the exertions of M. De La Pérouſe for the public welfare, and for the increaſe of human knowledge and uſeful diſcovery.

Decrees, that M. De La Pérouſe ſhall remain on the liſt of naval commiſſioned officers until the return of the ſhips in ſearch of him; and that his pay ſhall continue to be received by his wife, according to the diſpoſition that he had made before his departure.

Compared with the original, by us Preſident and Secretaries of the National Aſſembly.

(Signed) REUBELL, Preſident.

GOUPIL-PREFELN,
MOUGINS-ROQUEFORT,
ROGER, } Secretaries.

Paris, 25th April, 1791.

NOTE

## NOTE OF THE KING,

*To ſerve as a particular inſtruction to the* Sieur De La Pérouſe, *captain of the navy, commanding the frigates La Bouſſole and L'Aſtrolabe.*

(26 JUNE, 1785.)

HIS Majeſty having cauſed to be equipped, at the port of Breſt, the frigates La Bouſſole, commanded by the Sieur De La Pérouſe, and L'Aſtrolabe, by the Sieur D L angle, captains of the navy, to be employed in a voyage of diſcovery, is about to make known to the Sieur De La Pérouſe, to whom he has given the command in chief of theſe two veſſels, the ſervice he will have to perform, in the important expedition, which he has confided to his care.

The different objects which his Majeſty has had in view in commanding this voyage, have rendered it neceſſary, that the preſent inſtruction ſhould be divided into ſeveral parts, in order that it may explain more clearly to the Sieur De La Pérouſe the particular intentions of his Majeſty, upon every one of the objects that will engage his attention.

The firſt part will contain the route or plan of his voyage, according to the order of the diſcoveries it is in contemplation to make or to carry to perfection;

perfection; and there will be joined to it a collection of geographical and hiſtorical notes, which may guide him in the various inquiries, to which he will devote himſelf.

The ſecond part will treat of the objects relating to policy and to commerce.

The third will explain the operations relative to aſtronomy, to geography, to navigation, to natural philoſophy, and to the different branches of natural hiſtory, and will regulate the labours of the aſtronomers, natural philoſophers, naturaliſts, ſcientific perſons, and artiſts employed in the expedition.

The fourth part will preſcribe to the Sieur De La Pérouſe, the conduct it will be neceſſary for him to purſue, with the ſavage people and the natives of the different countries which he will have opportunities of diſcovering or viſiting.

The fifth and laſt will point out to him the precautions he will be required to take, to preſerve the health of his crews.

## FIRST PART.

### *Plan of the Voyage.*

The Sieur De La Pérouſe will ſail from Breſt Road, as ſoon as every preparation ſhall have been made.

He

He will touch ſucceſſively at Funchal, in the iſland of Madeira; and at Praya, in that of St. Jago. He will provide himſelf with ſome caſks of wine in the firſt port, and complete his water and wood in the laſt, where he may alſo procure himſelf ſome refreſhments. He will obſerve, however, with regard to Praya, that he ought to make the ſhorteſt poſſible ſtay there, becauſe the climate is very unhealthy at the ſeaſon when he will reach it.

He will croſs the line in the 29th or 30th degree of weſt longitude from the meridian of Paris; and if the wind ſhould permit him, he will try to reconnoitre Pennedo de ſan Pedro *(ſee note 2)* and to aſcertain its poſition.

He will examine the iſland of Trinidad, *(notes* 10 & 11) will anchor there, and may wood and water, as well as fulfil there a particular object of his inſtructions.

In leaving this iſland he will run into the latitude of *Iſle Grande de la Roche (note 19)*; he will follow the parallels of 44° and 45° to 50 degrees of longitude, in 35 degrees of weſt longitude, and he will give up the ſearch of this iſland if he have not met with it when he ſhall have reached that meridian. If he ſhould prefer making it from the weſtward, he will nevertheleſs keep between the above-mentioned meridians.

He will run afterwards into the latitude of *Terre de la Roche*, called by Cook the *Iſland of*

*of Georgia*, in the 54th degree of south latitude. He will make the north west end of it, and will particularly examine the southern coast, which has not yet been visited.

Thence he will look out for *Sandwich Land*, (*note* 21) in about 57 degrees south latitude: he will observe, that captain Cook could only inspect some points on the west side of this land, and that the extent of it towards the east and to the south is unknown. He will examine particularly the east coast, in order afterwards to run down the south side, and double that end of it, if the ice do not oppose an invincible obstacle to his pursuits.

When he is assured of the extent of this land to the east and the south, he will shape his course to make *Staten Land*, double Cape Horn, and anchor in Christmas Sound, on the south-west coast of *Terra del Fuego*, where he will provide himself with wood and water; but if he finds it too difcult to beat to the westward, by reason of the winds which usually prevail in this part, and the currents which sometimes run strong to the eastward, he will stand for the coast of Brazil in the latitude he can best make it; run along this land with variable winds or land breezes, and may even touch at Falkland's Islands, which offer resources of different kinds. He will afterwards pass *Strait le Maire*, or double the east end of Staten Land to

reach Chriſtmas Sound, which, in any caſe, muſt be the firſt rendezvous of his Majeſty's ſhips in caſe of ſeparation.

In quitting Chriſtmas Sound he will ſhape his courſe ſo as to paſs the meridian of 85 deg. weſt, in the latitude of 57 degrees ſouth, and he will keep in this parallel to 95 degrees of longitude, to look for Drake's Port and Iſland *(note 23)*.

He will afterwards croſs the meridian of 105 deg. in the parallel of 38 deg., in which he will keep to 115 deg. of longitude, endeavouring to find an iſland ſaid to be diſcovered by the Spaniards, in 1714 *(note 25)*, in 38 deg. of latitude, between the 108th and 110th meridian.

After this ſearch, he will get into the latitude of 27° 5′ upon the meridian of 108 degrees weſt, to look in this parallel for *Eaſter Iſland*, ſituate in 112° 8′ of longitude. He will anchor there to fulfil the particular object, which will be preſcribed in the ſecond part of the preſent inſtructions.

From this iſland he will return to the latitude of 32 deg. on the meridian of 120 deg. weſt, and he will keep in that parallel to 135 deg. of longitude, to find land ſeen by the Spaniards in 1773 *(note 27)*.

At this point of 135 deg. of longitude, and 32 of latitude, the two frigates are to part company.—The firſt will ſtand on to the intermediate parallel between 16 and 17 deg., and will keep in it from the

the 135th to the 150th meridian weſt from Paris, whence ſhe will ſteer for the iſland of Otaheite. The interval from the 16th to the 17th degree of latitude, on a ſpace of 25 degrees in longitude, not having been viſited by any modern navigators, being ſcattered over with low iſlands, it is poſſible that the ſhip which follows the above-mentioned track will meet with new iſlands, which may be inhabited, as are moſt of the low iſlands in theſe ſeas.

At the ſame time the ſecond frigate, going from the ſame point of 32 degrees of latitude, and 135 of longitude, will get into 25° 12′ ſouth latitude, and try to keep in this parallel, beginning in the 131ſt or 132d degree of longitude. This frigate will look out for Pitcairn Iſland, diſcovered, in 1767, by Carteret, and ſituate in 25° 12′ of ſouth latitude. The longitude of this iſland is yet uncertain, becauſe this navigator had no means of aſcertaining it by obſervation. It is much to be deſired it might be determined with preciſion, becauſe the poſition of this iſland, if well known, might ſerve gradually to rectify that of other iſlands or lands diſcovered ſubſequently by Carteret.

In quitting Pitcairn Iſland, the ſecond veſſel will ſtand to the weſtward, and afterwards to the north-weſt, to look ſucceſſively for the iſlands of the Incarnation, of St. John the Baptiſt, of St. Elmo, of

the Quatro Coronadas, of St. Michael, and of the Converſion of St. Paul, diſcovered by Quiros, in 1606, (*note* 28), which it is ſuppoſed may be ſituate to the ſouth-eaſt of Otaheite, and which have not been ſeen, or even ſought for, by the navigators of this century. The ſecond ſhip will thus, by a north-weſt courſe, arrive at 150 degrees weſt longitude, and at 19 degrees of latitude, whence ſhe will proceed to Otaheite.

It is to be preſumed, that the two frigates may be there towards the latter end of April. That iſland will be the ſecond rendezvous of the king's ſhips, in caſe of ſeparation. They will, in the firſt place, anchor in the bay of Oheitepeha, ſituate at the north-eaſt part of the iſland called *Tiarabou*, or *Otaheite-ete*, which is found to windward of the bay of Matavai, ſituate at the north point, or Point Venus; and they will afterwards put into this latter place, in order to procure at thoſe two different anchorages, with greater facility, ſuch refreſhments as they may ſtand in need of.

The Sieur De La Pérouſe will leave Otaheite after a month's ſtay. He may, in his way, viſit Huaheine, Ulietea, Otaha, Bolabola, and others of the Society Iſlands, to procure the remaining ſupplies of proviſion, to provide theſe iſlands with European articles, ſerviceable to their inhabitants, and to ſow ſeeds, plant vegetables, trees, &c. which

which may in time preſent new reſources to European navigators croſſing this ocean.

In quitting the Society Iſlands, he will ſteer a north-weſt courſe to get into the latitude of the Iſland of St. Bernard of Quiros *(note 28)*, about the 11th degree. He will not proceed in his ſearch for this iſland further than from 158 to 162 degrees of longitude; and from the latitude of 11 degrees he will ſtand to the north-weſt, till he gets into the 5th degree of ſouth latitude, and between the 166th and 167th degrees of longitude; he will then ſhape his courſe to the ſouth-weſt, to croſs, in this direction, the part of the ſea ſituate to the north of the archipelago of the Friendly Iſles, where it is probable he will meet, according to the reports of the natives of thoſe iſlands, with a great many others, in all likelihood inhabited, and which have not yet been viſited by Europeans.

It would be deſirable if he could again find the iſland of the *Bella Nacion* of Quiros, which he ſhould look for between the parallels of 11 and $11\frac{1}{2}$ degrees from the 169th degree of longitude, up to the 171ſt, and ſucceſſively the Navigators Iſlands of Bougainville, likewiſe he will go to the Friendly Iſlands to procure refreſhments.

Upon leaving the Friendly Iſlands, he will get into the latitude of the *Iſle of Pines*, ſituate at the ſouth-eaſt point of New Caledonia *(note 29)*; and after having made it, he will coaſt it weſterly,

to aſcertain whether this land be all one iſland, or formed of many iſlands.

If, after having run down the ſouth-weſt coaſt of New Caledonia, he can make Queen Charlotte's Iſlands, he will try to reconnoitre the iſland of Santa Cruz of Mendana *(note* 30), and determine its extent to the ſouth.

But if the wind ſhould not allow of this courſe, he will make for the Deliverance Iſlands, at the eaſt point of the *Terre des Arſacides*, diſcovered, in 1769, by Surville *(note* 32); he will run along the ſouth coaſt, which neither this navigator, nor any other, has examined, and he will ſatisfy himſelf whether, as is probable, theſe lands do not form a group of iſlands, which he will try to particularize. It is to be preſumed, that they are peopled on the coaſts to the ſouth, as we know thoſe to the north are; perhaps he may procure there ſome refreſhments.

He will endeavour, in like manner, to examine an iſland to the north-weſt of the *Terre des Arſacides*, the eaſtern coaſt of which was ſeen by Bougainville in 1768; but he will purſue this reſearch no farther than to be able without difficulty afterwards, to make Cape Deliverance on the ſouth-eaſt point of *Louiſiade (note* 33); and, before reaching this cape, he will examine, if he can, the eaſt coaſt of this land.

From

From Cape Deliverance he will ſteer a courſe for Endeavour Straits *(note* 34), and will, in theſe ſtraits, try to aſcertain whether the land of Louiſiade be contiguous to that of New Guinea; and he will examine all this part of the coaſt, from Cape Deliverance to the iſland of St. Bartholomew, eaſt north-eaſt of Cape Walſh, of which we have at preſent but a very imperfect knowledge.

It is much to be wiſhed that he could inſpect the *Gulf of Carpentaria (note* 35); but he will have to obſerve, that the north-weſt monſoon, to the ſouth of the line, begins about the 15th of November, and that the limits of this monſoon are not ſo fixed, that they may not ſometimes extend themſelves beyond the 10th degree of ſouth latitude. It is therefore important, that he obſerve the greateſt diligence in this part of his ſurvey, and that he pay attention to combine the length of his courſe, and rate of his ſailing, ſo as to have repaſſed the longitude of the ſouth-weſt point of the Iſland of *Timor*, before the 20th of November.

If, contrary to all appearance, it ſhould have been impoſſible for him to have procured refreſhments, wood, and water, in the places he had touched at after his departure from the Friendly Iſles, which may be ſuppoſed to have been about the 15th of July, he will ſtop at Prince's Iſland, at the entrance of the Straits of Sunda, near the weſtern point of the iſland of Java.

On leaving Prince's Iſland, or if he have not been forced to put in there, in quitting the channel to the north of New Holland *(note 35)*, he will direct his courſe ſo as to inſpect the ſouth coaſt of this land, and he will begin this examination as high up towards the equator as the winds will permit him. He will ſurvey the weſt coaſt, and inſpect more particularly the ſouthern coaſt, of which the greateſt part has never been explored, and he will approach to the ſouth of *Van-Diemen's* Land *(note 36)*, at Adventure Bay, or at Frederick Henry Bay; thence he will make for Cook's Straits, and anchor at Queen Charlotte's Sound, ſituate in the ſtrait between the two iſlands which form New Zealand. This port will be the third rendezvous for the frigates in caſe of ſeparation. He will repair his ſhips there, and provide himſelf with refreſhments, wood, and water.

It may be preſumed he can ſail from this port at the beginning of March, 1787.

In going out of Cook's Straits, or New Zealand Straits, he will ſtand for, and remain between, the parallels of 41 & 42 degrees, as far as the 130th degree of weſt longitude. When he ſhall have reached this longitude, he will ſtand to the north, in order to get to windward, and into the latitude of the Marqueſas iſlands of Mendoza *(note 38)*; to ſupply the wants of his ſhips, he will put into the port of *Madre de Dios of Mendana*, on the weſtern

weſtern coaſt of the iſle *Santa Chriſtinia* (Cook's Reſolution's Bay); this port will be the fourth rendezvous in caſe of ſeparation.

It may be preſumed that this paſſage will take up two months, and that he will be ready to ſail again about the 15th of May.

If, in ſailing from the Marqueſas iſlands of Mendoza, the winds ſhould be ſufficiently favourable for him, to make, at leaſt, a northerly courſe, he might reconnoitre ſome of the iſlands to the eaſt of the group of Sandwich Iſles *(note* 40): he will afterwards repair to theſe laſt, where he may take a ſupply of proviſion, but he will not ſtay there.

He will ſail, as ſoon as he can, to make the north-weſt coaſt of America; and to this effect he will ſtand to the northward, as far as 30 degrees, to get out of the trade winds, and that he may make the above coaſt in 36° 20′ at *Punta de Pinos*, to the ſouth of Port Monterey, of which the mountains (or *ſierra)* of Santa Lucia, are the marks.

It is probable, that he may arrive at this coaſt about the 10th or 15th of July *(note* 41).

He will particularly endeavour to reconnoitre thoſe parts which have not been examined by captain Cook, and of which the relations of Ruſſian and Spaniſh navigators have given no idea. He will obſerve, with the greateſt care, whether, in

in thoſe parts not yet known, ſome river may not be found, ſome confined gulf, which may, by means of the interior lakes, open a communication with ſome part of Hudſon's Bay.

He will puſh his enquiries to *Behring's Bay*, and to Mount St. Elias, and will inſpect the ports *Bucarelli* and *Los Remedios*, diſcovered, in 1775, by the Spaniards.

Prince William's Sound, and Cook's River, having been ſufficiently explored, he will not make a point of viſiting them; but after making Mount St. Elias, he will ſteer a courſe for the Shumagin Iſlands, near the peninſula of Alaſhka.

He will afterwards examine the archipelago of the *Aleutian* Iſlands *(note* 42), and ſucceſſively the two groups of iſlands to the weſt of the former, concerning the true poſition and the number of which we are uninformed, and which altogether conſtitute, with the coaſts of Aſia and America, the great northern baſin or gulf.

When this examination is completed, he will put into the port of *Avatſcha (note* 43), or St. Peter and St. Paul, at the ſouth-eaſtern extremity of the peninſula of *Kamtſchatka*.

He will try to be there about the 15th or 20th of September; and this port will be the fifth rendezvous in caſe of ſeparation.

He will diligently provide for the wants of his ſhips there, and will gain the neceſſary informa-

tion

tion ſo as to be ſure of finding proviſion there when he comes again in 1788.

He will ſo arrange his operations as to be ready to ſail in the firſt ten days of October.

He will coaſt along and examine all the Kurile Iſlands *(note* 44), the north-eaſt coaſt, the eaſt and the ſouth of Japan; and, according as the ſeaſon advances, and he may find the winds more or leſs favourable, the ſeas more or leſs difficult, he will extend his reſearches to the iſlands on the eaſt and the ſouth of Japan, and to the iſlands of Lekeyo, as far as Formoſa.

When he ſhall have completed this examination, he will put into Macao and Canton, or Manilla, according to circumſtances.

This port will be the ſixth rendezvous in caſe of ſeparation.

It is preſumed, that he ought to be there towards the end of the year 1787.

He will get his ſhips repaired and victualled, and will wait in port the return of the ſouth-weſt monſoon, which commonly ſets in about the beginning of March. He may, notwithſtanding, delay his departure till the firſt of April, if his crews have need of longer reſt, and if, after the information he ſhall have gained, he think the navigation northward would be too hazardous before this period.

What-

Whatever may be the length of his ſtay, he will ſhape his courſe in quitting this port, to paſs the ſtraits, which ſeparate the iſland of Formoſa from the coaſt of China, or between this iſland and thoſe which lie to the eaſt.

He will examine with care the weſt coaſt of Corea, and inſpect the gulf of Hoan-hay, taking care not to ſtand in ſo far as to prevent him from weathering the ſouth coaſt of Corea, with a ſouth-weſt, or ſoutherly wind.

He will afterwards examine the eaſtern coaſt of this peninſula, that of Tartary, where the pearl fiſhery is carried on, and that of Japan, on the other ſide. All theſe coaſts are abſolutely unknown to Europeans.

He will paſs the ſtraits of *Teſſoy*, and explore the land known by the name of Jeſſo *(note 45)*, and that which the Dutch have denominated. *Staten Land*, and the Ruſſians, *Nadezda* Iſland, about which there are at preſent only confuſed ideas, from ſome ancient accounts which the Dutch Eaſt India Company have ſuffered to tranſpire, but the accuracy of which has not been aſcertained.

He will finiſh his obſervations upon ſuch of the Kurile Iſlands *(note 44)*, as he may not have been able to viſit in the preceding month of November, in coming from Avatſcha to Macao.

He

He will paſs between ſome of theſe iſlands as near as he can to the ſoutherly point of Kamtſchatka; and will anchor in the port of Avatſcha, the ſeventh rendezvous in caſe of ſeparation.

After refitting and victualling, he will go to ſea again, at the beginning of Auguſt.

He will come into the latitude of 37 deg. ½ north, on the meridian of 180 deg.

He will ſteer to the weſtward, to look out for land, or an iſland which is ſaid to have been diſcovered by the Spaniards, in 1610, *(note 48)*; he will follow up this ſearch to the 165th of eaſt longitude. He will ſtand afterwards ſouth-weſt, and ſouth-ſouth-weſt, to examine the diſperſed iſlands ſituate in this direction, to the north eaſt of the Ladrones, or Marianne Iſlands.

He may put in at the iſland of Tinian, but he will ſo contrive to combine the time of his ſtay, and his further courſe, with the north-eaſt monſoon, which only begins in October to the north of the line, ſo that on quitting the iſle of Tinian he may run down and examine the New Carolinas *(note 49)*, ſituate ſouth-weſt of the iſland of Guaham, one of the Mariannes, and to the eaſt of Mindanao, one of the Philippines. He will proceed in this examination as far as the iſlands of St. Andrew.

He

He will afterwards come to an anchor at the iſland of Mindanao, in the port ſituate on the ſouth ſide of the iſland, behind that of Sirangam.

After a ſtay of a fortnight, taken up in ſupplying himſelf with refreſhments, he will ſet ſail for the Molucca Iſlands, and may anchor at Ternate, to procure what further proviſion may be wanting.

As the north-weſt monſoon, which then blows to the ſouth of the line, would not permit him to paſs the ſtraits of *Sunda*, he will avail himſelf of the variation of the wind near the equator, to ſteer between Ceram, and Bourro, or between Bourro, and Bouton *(note 50)*; and he will endeavour to ſtand out from between ſome of the iſlands to the eaſt or weſt of Timor *(note 51)*.

It is probable, that, having then run beyond the parallel of 10 deg. ſouth, he will find himſelf to be out of the north-weſt monſoon, and that he may eaſily, with the winds from the eaſt, and ſouth-eaſt, ſtretch towards the weſt, and make the *Iſle of France*, which will be the eighth rendezvous of the ſhips, in caſe of ſeparation.

He will ſtay at the Iſle of France only ſo long as is abſolutely neceſſary to put himſelf in a condition to return to Europe, and will take advantage of the laſt months of the ſummer, for the

the navigation which will remain to be performed in the ſeas ſouth of the Cape of Good Hope.

On quitting the Iſle of France, he will ſtand into the parallel between 54 and 55 degrees ſouth, to look for Cape Circumciſion *(note 54)*, diſcovered by Lozier Bouvet, in 1739.

He will croſs this latitude at 15 deg. of eaſt longitude, and follow the parallel between 54 and 55 degrees, up to the meridian of Paris, or 0 of longitude.

When he arrives at that point, he is to quit the ſearch after this land.

If at this period he judge the ſhips to be not ſufficiently provided with proviſion, to make their return to Europe, he may go into the Cape of Good Hope, to put them into a condition to continue their voyage; and this port may be the ninth rendezvous for the veſſels, in caſe of ſeparation.

Whatever he may have done in this reſpect, he will, in coming back to Europe, endeavour to reconnoitre the iſlands of *Gough (note 18)*, d'Alvarez *(note 17)*, Triſtan d'Acunha *(note 16)*, Saxemburgh *(note 14)*, and Dos Picos *(note 10)*, and if he meet with them, he will aſcertain their poſitions, which remain to this time uncertain.

He will return to the port of Breſt, where it is probable he may arrive in July, or Auguſt, 1789.

Although

Although the courſe of the Sieur De La Pérouſe is thus traced by the preſent inſtruction, and his going into the various ports, and his ſtay there are pointed out, his Majeſty does not mean to have it underſtood, that he ſhould invariably ſubject himſelf to this plan. All the calculations here preſented ought to be governed by the circumſtances of his navigation, the condition of his crews, of his proviſion, and his ſhips, as well as by the events of his voyage, and accidents which it is not poſſible to foreſee. All theſe cauſes may more or leſs produce a change in the plan of his operations; and the object of the preſent inſtructions is only to make known to the Sieur De La Pérouſe the diſcoveries which remain to be made, or to be perfected, in the different parts of the globe, and the courſe which appeared convenient to be followed: that he might proceed with order, in his various reſearches, in combining his different routes, and the periods of his going into harbour, with the ſeaſons, with the predominant or periodical winds, in every latitude he has to go through. His Majeſty, relying therefore on the experience and judgment of the Sieur De La Pérouſe, authorizes him to make the changes which may appear to him neceſſary, in the caſes which have not been foreſeen,

ſeen, provided he keep as near as poſſible to the plan which is traced out to him; and conform himſelf eſpecially to that which will be preſcribed in the other parts of theſe inſtructions.

## SECOND PART.

### *Objects relating to Policy and Commerce.*

HIS Majeſty has pointed out in the firſt part of theſe inſtructions, to the Sieur De La Pérouſe the courſe which he will have to follow, in the inquiries and diſcoveries which he has to make, in the greateſt part of the terreſtrial globe; he is about to make known to him, in this part, the objects relating to policy and commerce, which ought particularly to occupy his attention, at the different places at which he may touch; ſo that the expedition which his Majeſty has ordered, in contributing to perfect geography, and extend navigation, may equally fulfil, under other conſiderations, the views that his Majeſty propoſed to himſelf, for the intereſt of the crown, and the utility of his ſubjects.

1ſt. The duration of the ſtay, that the Sieur De La Pérouſe ſhould make at Madeira, and at St. Jago, will be too ſhort to enable him to acquire any exact knowledge of theſe Portugueſe colonies; but he will neglect no means of obtaining

information, reſpecting the forces, that the crown of Portugal keeps there, reſpecting the commerce carried on there, by the Engliſh, and other nations, and the great objects concerning which it may be intereſting to be informed.

2ndly. He will ſatisfy himſelf whether the Engliſh have entirely evacuated the Iſland of Trinidad; whether the Portugueſe be eſtabliſhed there; and in what conſiſts the eſtabliſhment the latter may have formed there ſince the evacuation.

3dly. If he ſhould happen to fall in with the *Iſle Grande of la Roche*, he will examine whether it contain any commodious and ſafe port, where wood and water are to be procured; what facility it can offer to form an eſtabliſhment, in caſe the whale-fiſhery might draw French adventurers into the Southern Atlantic Ocean; whether there be any part which might be advantageouſly fortified, and kept by a ſmall number of troops, a poſt, in ſhort, convenient for an eſtabliſhment, ſo far off from ſuccour and the protection of the mother country.

4thly. He will examine the Iſland of Georgia, with the ſame views; but it is probable, that this iſland, being ſituate under a higher latitude, holds out leſs facility than might be expected from the poſition of *Iſle Grande*; and that the ice, which obſtructs the ſea during a part of the year in the vicinage of Georgia, would throw great obſtacles

ſtacles in the way of ordinary navigation; and would intimidate the fiſhermen from making this iſland a point of rendezvous and retreat.

5thly. The iſlands of the great equatorial ocean will offer but few obſervations to be made relative to policy and commerce. Their diſtance ſeems likely to prohibit the nations of Europe from forming eſtabliſhments there: and Spain only could have any intereſt in occupying iſlands, which, being ſeated at nearly an equal diſtance from her poſſeſſions in America and Aſia, might become places of ſhelter and refreſhment, for her trading ſhips which traverſe the great ocean.

However that may be, the Sieur De La Pérouſe will principally attend to the climate and the productions of every kind, in the different iſlands of this ocean, where he may land, to learn the manners and cuſtoms of the natives, their religion, the form of their government, their manner of making war, their weapons, their veſſels, the diſtinctive character of each tribe, whatever they may have in common with other ſavage nations, as well as with civilized people, and principally for what each in particular is remarkable.

Of thoſe iſlands where the Europeans have already been he will endeavour to learn, whether the natives of the country have diſtinguiſhed the different nations which have viſited them, and he will try to get out of them what opi-

nion they may have of each of them in particular. He will inquire what uſe they have made of the different merchandize, of the metals, the tools, the ſtuffs, and the other things, which the Europeans have carried them. He will inform himſelf whether the cattle and other animals, which captain Cook left upon ſome of the iſlands, have multiplied, what grain, what herbs from Europe have beſt ſucceeded, what method the iſlanders have practiſed for their cultivation, and to what uſe they have turned their produce. Every where in ſhort, he will examine what has been related by ſuch navigators as have publiſhed accounts of thoſe iſlands, and he will principally endeavour to remark what may have eſcaped the reſearches of his predeceſſors.

During his ſtay at Eaſter Iſland, he will ſatisfy himſelf, whether the population decreaſe there, as there is room to preſume, after the obſervations and the opinion of captain Cook.

On paſſing to the iſland of Huaheine, he will ſtrive to make acquaintance with OMAI, that iſlander whom the Engliſh navigator eſtabliſhed there on his third voyage; he will learn from him what treatment he met with from his countrymen, after the departure of the Engliſh, and what uſe he has himſelf made of the lights and knowledge which he muſt neceſſarily have acquired during his ſtay in Europe, for the ſervice, benefit, and melioration of his country.

6thly. If

6thly. If during the inſpection and examination he will make of the iſlands of the great equatorial ocean, and the coaſts of the continents, he ſhould meet with any ſhip at ſea, belonging to ſome other power, he will conduct himſelf towards the commander of ſuch ſhip, with all the politeneſs eſtabliſhed and agreed upon, between poliſhed and friendly nations; and if he meet with ſuch in ſome port belonging to a people conſidered as ſavage, he will concert meaſures with the captain of the ſtrange veſſel, for effectually preventing all manner of diſpute, all altercation between the crews of the two nations, which might be aſhore together, and to lend each other mutual aſſiſtance, in caſe either might be attacked by the iſlanders or ſavages.

7thly. In the viſit he will make to New Caledonia, Queen Charlotte's Iſlands, and the Land of the Arſacides, and that of Louiſiade, he will carefully examine the productions of theſe countries, which, being ſituate under the torrid zone, and in the ſame latitudes as Peru, may open a new field of ſpeculation in commerce; and, without giving way to the reports, undoubtedly exaggerated, which the ancient Spaniſh navigators have made of the fertility, and the riches of ſome of the iſlands, which they diſcovered in this part of the world, he will only obſerve, that the reconciliation of various accounts, founded

upon geographical combinations, and upon the knowledge and information which modern voyages have procured, give room to think, that the land diſcovered, in the one part, in 1768, by Bougainville, and in the other, in 1769, by Surville, may be the iſlands diſcovered in 1567, by Mendana, and known ſince by the name of *Solomon's Iſlands;* which name was given them in after-times, by the idea whether true or falſe that was entertained of their riches.

He will examine with ſimilar attention the northern and weſtern coaſts of New Holland, and, particularly, that part of thoſe coaſts which, lying under the torrid zone, may participate in the productions common to places in the ſame latitudes.

8thly. He will not have the ſame inquiries to make at the iſlands of New Zealand, which the accounts of Engliſh navigators have very fully made known. But during his ſtay in Queen Charlotte's Sound, he will endeavour to diſcover, whether England have formed, or projected any eſtabliſhments upon theſe iſlands; and in caſe he ſhould learn that any has been formed, he will endeavour to viſit them and obtain information of the ſtate of it, and of the ſtrength and object of ſuch eſtabliſhment.

9thly. If, in the reſearches he will make in the north-weſt coaſt of America, he meet with, in ſome

ſome points thereof, forts or factories, belonging to his Catholic Majeſty, he will ſedulouſly avoid every thing which may give umbrage to the governors of thoſe eſtabliſhments; and he will make uſe of the ties of blood and friendſhip, which unite the two ſovereigns ſo cloſely, in order to procure, by theſe means, all the aſſiſtance and refreſhments of which he may ſtand in need, and with which the country may be in a condition to furniſh him.

It appears, that Spain has had the intention of extending its title of poſſeſſion as far as the Port *de los Remedios*, about the 57th degree and a quarter of latitude; but there is nothing which gives aſſurance, that, in ordering it to be inſpected in the year 1775, ſhe has formed any eſtabliſhment there, any more than at the Port of *Bucarelli*, ſituate about two degrees leſs northward. As far as it is poſſible to judge by the deſcriptions of this country, which have made their way into France, the actual poſſeſſion of Spain does not extend beyond *St. Diego*, and *Monterey*, where ſhe has raiſed little forts, and guarded them by detachments drawn from California, or New Mexico.

The Sieur De La Pérouſe will endeavour to obtain the knowledge of the condition, the ſtrength, the object of theſe eſtabliſhments, and to apprize himſelf, whether theſe be the only

ones that Spain has formed upon theſe coaſts. He will examine, in like manner, at what latitude might be begun the procuring of furs and ſkins; what quantity the American Indians could furniſh; what merchandize, what objects would be the moſt eligible for the traffic of peltry; what conveniences might be found for forming an eſtabliſhment upon this coaſt, in caſe of this new commerce preſenting ſufficient advantage to the French merchants, to induce them to engage themſelves in it, in the hope of exporting theſe furs to China, where we are aſſured they find a ready ſale.

He will, in like manner, endeavour to gain a knowledge of what kind of ſkins may be purchaſed, and if thoſe of the otter, which bear the higheſt value in Aſia, where they are much ſought after, be the moſt common in America. He will take care to bring to France ſpecimens of all the different furs, which he may have been able to procure: and as he will have occaſion in the courſe of his voyage to put into China, and perhaps to touch at Japan, what ſpecies of ſkins in theſe two empires have the moſt eaſy, moſt certain, and moſt lucrative ſale, and what benefit France might promiſe itſelf from this branch of commerce. In ſhort, he will try, during his ſtay on the coaſts of America, to diſcover whether the Hudſon's Bay eſtabliſhments, the forts

or

or factories of the interior, or any province of the United States, have opened, by the medium of the wandering ſavages, any communication of commerce or barter, with the people of the weſt coaſt.

10thly. It is probable, that in viſiting the *Aleutian* iſlands, and the other groupes ſituate to the ſouth of the large northern Archipelago, he will meet with ſome Ruſſian eſtabliſhments or factories. He will endeavour to learn their conſtitution, their ſtrength, their object; what is the navigation of the Ruſſians in theſe ſeas, what ſhips, what men they employ there; how far they extend their commerce, as alſo whether there be any of theſe iſlands which acknowledge the dominion of Ruſſia, or all be independent; in fine, whether the Ruſſians have not by ſmall degrees ſtretched themſelves to the very continent of America.

He will profit by his ſtay in the port of Avatſcha, to increaſe the knowledge to be acquired in theſe particulars, and to procure for himſelf at the ſame time, if it be poſſible, whatever information he may need reſpecting the Kurile Iſles, the land of Jeſſo, and the empire of Japan.

11thly. He will make his examinations of the Kurile Iſles, and of the land of Jeſſo, with prudence and circumſpection, as much in conſideration of that which concerns his navigation in a ſea

ſea which is not known to Europeans, and which paſſes for tempeſtuous, as in the communication which he may have with the inhabitants of theſe iſlands and lands, whoſe character and manners muſt neceſſarily have ſome conformity with thoſe of the Japaneſe, who may have ſubjugated part of them, and hold communication with the others.

He will ſee by the geographical and hiſtorical notes joined to the preſent inſtruction, that Ruſſia does not extend her dominion further than to thoſe of the Kurile Iſles, the neareſt to Kamtſchatka; and he will examine, whether, in the number of ſoutherly and independent iſles, there be not one remaining, upon which, in the ſuppoſition of a commerce in ſkins and furs to be opened with France, it would be poſſible to form an eſtabliſhment, or factory, which might be rendered ſecure from any inſult on the part of the iſlanders.

12thly. With regard to Japan, he will endeavour to reconnoitre and inſpect the north eaſt, and the eaſt coaſt, and go on ſhore in ſome one of its ports, in order to ſatisfy himſelf whether its government in reality oppoſe any invincible obſtacle to every eſtabliſhment, to every introduction of commerce or barter with Europeans, and whether by the enticement of furs, which are an object of utility and luxury to the Japaneſe, it would not be poſſible to prevail on the ports of the eaſt

or

or north-eaſt coaſt, to admit ſhips, which ſhould bring furs, and receive in exchange teas, ſilks, and other productions of their ſoil, and the works of their manufacture; perhaps the prohibitory laws of this empire, which all the accounts of this country ſpeak of as ſo ſevere, are not in force on the coaſts to the north-eaſt and eaſt, with ſo much rigour as at Nangaſaki and the ſouth coaſt, places too near the capital to expect any relaxation in them.

13thly. During the time the Sieur De La Pérouſe is at Macao, he will take the neceſſary meaſures to obtain the convenience of wintering at Canton. He will addreſs himſelf for this purpoſe to the Sieur Vieillard, his Majeſty's conſul at China, and he will charge him to take ſuch meaſures with the Chineſe government, as will be proper to ſucceed therein. He will take advantage of his ſtay in this port, to inform himſelf exactly and in detail of the preſent ſtate of the commerce of the European nations at Canton; and he will inquire into this important object, under all the points of view, in which it may be intereſting to be informed.

He will gain every information which may be uſeful to him in his future navigation in the ſeas to the north of China, upon the coaſts of Corea, and of Eaſtern Tartary, and of all the lands or iſlands which remain to be inſpected in theſe parts.

parts. He will not neglect, if it be poſſible, to procure a Chineſe and Japaneſe interpreter, and a Ruſſian interpreter for his ſecond call at Avatſcha; he will bargain with them for the time he may keep them in the ſervice of the ſhip, and on his return, will land them at Mindanao, or at the Moluccas.

14thly. It is neceſſary he be informed, that the Japaneſe pirates are ſometimes very numerous in the ſea compriſed between Japan, Corea, and Tartary. Their weakneſs requires no other precaution on his part, than being on his guard during the night, to prevent a ſurpriſe on theirs; but it will not be uſeleſs, that he ſhould endeavour to ſpeak to one of them, and engage him by preſents and promiſes of recompence, to pilot his Majeſty's ſhips, in his ſurvey of Jeſſo, of which it is believed one part is under the dominion of Japan; in the paſſage through the Straits of Teſſoy, which the Japaneſe muſt neceſſarily know; and in the exploring of ſuch of the Kurile Iſles, as they may be in the habit of frequenting. This ſame pilot may be equally ſerviceable in viſiting ſome port on the weſt coaſt of Japan, in caſe circumſtances ſhould not have allowed a landing at any point of the eaſt or north-eaſt coaſt. But whatever uſe the Sieur De La Pérouſe may make of the ſaid pilot, he muſt not give up to his advice and ſuggeſtions, but with the moſt cautious

reſerve,

reſerve. It is proper alſo, that he ſhould engage, if he can, ſome fiſhermen of the Kurile Iſles, to ſerve him as pilots for ſuch of thoſe iſlands as border on Kamtſchatka.

The Sieur De La Pérouſe will thus, in ſtanding again to the northward, endeavour to complete his knowledge of the iſlands, which he could not make in coming from Avatſcha to Macao, and to compenſate on the weſt coaſt of Japan, for what he he had not been able to effect upon the eaſt and north-eaſt coaſt.

The reconnoitring of the coaſts of Corea and of Chineſe Tartary ought to be made with much prudence and circumſpection. The Sieur De La Pérouſe is not ignorant, that the Chineſe government is very diſtruſtful: he ſhould in conſequence avoid hoiſting his colours, or making himſelf known, nor ſhould he permit any thing to be done, which might excite upon theſe coaſts the inquietude of that government, leſt the effects of it ſhould be felt by the French ſhips which trade to Canton.

15thly. In exploring the Caroline Iſlands, which are ſcarcely known but by name to moſt of the nations of Europe, the Sieur De La Pérouſe will endeavour to learn whether the Spaniards, as they have frequently projected, have yet formed any eſtabliſhment there.

He will obtain the knowledge of the productions of theſe iſlands, and of all thoſe which he may

may have been able to diſcover to the north-eaſt, and to the weſt-ſouth-weſt of the Marian, or Ladrone Iſlands.

16thly. In the ſtay which he will make at Tinian, one of the Marian Iſlands, he will obtain information concerning the eſtabliſhments, the forces, and the commerce of the Spaniards in that archipelago and its environs.

He will make the ſame inquiries at Mindanao, in order to know, as much as he can, the political, military, and commercial ſtate of this nation in the Philippines.

17thly. During the ſtay he will make at the Moluccas, he will neglect nothing with reſpect to the information to be obtained concerning the ſituation and the commerce of the Dutch in theſe iſlands. He will ſtudy particularly to learn the advantages which the Engliſh derive in their commerce from the liberty this power has obtained, by its laſt treaty of peace with Holland, of navigating and trafficking in the whole extent of the Aſiatic ſeas, and he will endeavour to learn what uſe England has made of this liberty, and whether ſhe have already gone ſo far as to open by this way any new branch of commerce in this part of the world.

18thly. If the Sieur De La Pérouſe put into the Cape of Good Hope, he will obtain preciſe information concerning the preſent ſituation of that colony,

colony, the forces that Holland or the Dutch Eaſt India Company keep there ſince the peace, and the ſtate of the new and old fortifications which defend the town, and protect the anchorage.

19thly. Generally in all the iſlands, and in all the ports of the continent, occupied or frequented by the Europeans, where he may land, he will with prudence, as much as the time he ſtays, and circumſtances will permit, make every inquiry which may enable him to communicate in detail the nature and the extent of the commerce of each nation, the forces both by land and by ſea that each keeps in them, the connections of intereſt or friendſhip which may exiſt between each and the chiefs or natives of the country where they have their eſtabliſhments, and generally all that can intereſt either policy or commerce.

## THIRD PART.

*Operations relating to Aſtronomy, to Geography, to Navigation, to Natural Philoſophy, and to the different Branches of Natural Hiſtory.*

1ſt. HIS Majeſty having appointed two aſtronomers to be employed under the orders of the Sieur De La Pérouſe, in the expedition which he has confided to him, and his two frigates being provided

provided with all the inſtruments of aſtronomy and navigation, of which uſe can be made either by ſea or land, he will take care in the courſe of the voyage, that one or other of them makes all the aſtronomical obſervations which may appear to him of any utility.

The object of the greateſt importance to the ſafety of navigation is, to fix with preciſion the latitudes and longitudes of the places where he may land, and of thoſe within ſight of which he may paſs. With this view he will recommend to the aſtronomer employed on board each frigate, to obſerve with the greateſt exactneſs the movement of the time-keepers, and take advantage of every favourable circumſtance for verifying, on ſhore, whether they have kept good time during the run, and to confirm by obſervation the change which may have happened in their daily movement, in order to keep an account of the change, ſo as to determine, with greater preciſion, the longitude of the iſlands, the capes, or other remarkable points, which he may have obſerved and laid down in the interval of the two verifications.

As often as the ſtate of the ſky will permit him, he will order lunar obſervations to be taken, with the inſtruments for that purpoſe, to determine the longitude of the ſhip, and to compare it with that which the time-keepers indicate

indicate at the ſame point of time: he will take care to multiply the obſervations of each kind, ſo that the mean reſult between different operations may procure a more preciſe determination. Whenever he paſſes within ſight of any iſland or land, at which he does not propoſe to go on ſhore, he will be ſure to keep himſelf as much as poſſible on its parallel at the time when obſervations are made of the meridian height of the ſun, or of any ſtar, from which to calculate the latitude of the ſhip; and he will keep under the ſame meridian while obſervations are making to determine the longitude. Thus he will avoid all error of poſition, and reckoning, which may injure the exactneſs of the determination. He will cauſe daily obſervations to be made, when the weather will permit, of the variation and dip of the magnetic needle.

As ſoon as he arrives in any port, he will make choice of a commodious ſpot of ground to pitch his tents, and ſet up his portable obſervatory, with which he is provided, and he ſhould place a guard over it.

Independently of the obſervations relative to the determination of latitudes and longitudes, for which there will be employed every kind of method known or practiſed, and of thoſe for knowing the variation of the compaſs, he will not fail to obſerve every celeſtial phenomenon which

may be perceived; and on all occaſions he will obtain for the two aſtronomers all the aſſiſtance which may aſſure the ſucceſs of their operations.

His Majeſty is perſuaded, that the officers and the naval cadets, employed in the two frigates, will zealouſly endeavour to make, in concert with the aſtronomers, every obſervation which may have any uſeful connection with navigation; and that theſe laſt perſons, on their part, will be eager to communicate on the earlieſt occaſions the fruits of their ſtudies, and that theoretical knowledge, which may contribute to carry the nautical art to perfection.

The Sieur De La Pérouſe muſt cauſe a double journal to be kept on board each frigate, in which muſt be entered, day by day, as well by ſea as by land, the aſtronomical obſervations, thoſe relative to the employment of the time pieces and all others. Theſe obſervations will be inſerted in the rough in the log-book, that is to ſay, in it will be ſimply written the quantity of degrees, minutes, &c. given by the inſtrument at the moment of obſervation, without any calculation, and in pointing out only the known error of the inſtrument, of which uſe will be made, if it have been aſcertained by the accuſtomed verifications.

Each of the aſtronomers ſhould keep one of theſe journals, and the other ſhould remain in the hands of each captain.

The

The aſtronomer will beſides keep a ſecond journal, wherein he ſhould in like manner inſert, day by day, all the obſervations which he may have made, to which he will join for every operation, all the calculations which neceſſarily lead to the laſt reſult.

At the end of the voyage the Sieur De La Pérouſe ſhould have the two journals depoſited in his hands, which ſhall have been kept by the aſtronomers, after they have been certified as true, and ſigned.

2ndly. When the Sieur De La Pérouſe ſhall land at thoſe ports, which it may be intereſting to be acquainted with, in a military point of view, he will obtain that knowledge through the chief engineer, who will give him a circumſtantial report of the remarks he may have made, and of the plans which it may have been in his power to lay down.

The Sieur De La Pérouſe is to order exact charts to be drawn of all the coaſts and iſlands he ſhall have inſpected; and if they have been previouſly known he muſt verify the exactneſs of the deſcription and of the charts, which other navigators ſhall have given of them.

To this effect, whenever he navigates along a coaſt, or in ſight of iſlands, he muſt cauſe them to be ſurveyed very exactly with a quadrant, or with an azimuth compaſs; and he ſhould obſerve, that the ſurveys, on which the moſt re-

liance may be had for the conſtruction of charts, are thoſe by which a cape or any remarkable object can be laid down by means of another.

He will employ the officers of the two frigates, and the geographic engineer, to lay down, with care, the plans of coaſts, bays, ports, and anchorages, which he ſhall be within reach of exploring; and to each plan he muſt add an inſtruction, containing every thing relative to the appearance and bearings of the land, the marks for ſailing in and out of the harbours, the proper births for anchoring, or mooring, and the beſt place for watering; the ſoundings, the quality of the bottom, the dangers, rocks, and ſhoals, the predominant winds, the trade winds, the monſoons, the time they laſt, and the period of their changing; in ſhort, all the nautical details which it may be uſeful to make known to navigators.

All the plans of countries, of coaſts, and of ports, muſt be made in duplicates; one of them muſt be depoſited in the hands of each captain; and at the end of the voyage the Sieur De La Pérouſe ſhould take into his poſſeſſion all the charts and plans, and the inſtructions relating to them.

His Majeſty leaves it to him to fix the period at which he will order the decked boats to be put together, which are embarked in pieces on board each frigate: he will perhaps do this during

during his ſtay at Otaheite. Theſe boats may be employed very uſefully in following the frigates, whether in viſiting the archipelagoes, ſituate in the great equatorial ocean, or for exploring in detail the parts of a coaſt, and in ſounding the bays, the ports, the paſſages, and, in ſhort, for facilitating every ſearch or inquiry, which requires a veſſel drawing but little water, and capable of carrying a few days proviſion for its crew.

3dly. The naturaliſts appointed to make, during their voyage, obſervations peculiar to their ſtudies, will be employed each of them in thoſe departments of natural hiſtory, with which they are beſt acquainted.

The Sieur De La Pérouſe ſhould, in conſequence, preſcribe to them the reſearches which they will have to make, and ſhould diſtribute to them the inſtruments and apparatus appropriate thereto.

He ſhould be attentive, in the diſtribution of the buſineſs, not to employ any individual on two different ſubjects, ſo that the zeal and the intelligence of every one of the learned perſons on board, may have their entire effect in promoting the general ſucceſs of the expedition.

He ſhould communicate to them the memorial of the academy of ſciences, in which this ſociety points out the particular obſervations, to which it would deſire the profeſſors of natural philoſo-

phy and natural hiſtory attend to during the voyage; and he ſhould recommend them to concur, every one in what may concern him, and according to circumſtances, in fulfilling the objects pointed out in this memorial.

He muſt in like manner communicate to the ſurgeon of each frigate the memorial of the ſociety of medicine, in order that both may make ſuch obſervations as will fulfil the wiſhes of this ſociety.

The Sieur De La Pérouſe, in the courſe of his voyages, and his ſtay in port, muſt cauſe a journal to be kept on board each ſhip, of all the obſervations relative to the wind and weather, the currents, the variations of the atmoſphere, and all that concerns meteorology.

During his ſtay in harbour, he ſhould cauſe obſervations to be made on the genius, the character, the manners, the cuſtoms, the temperament, the language, the government, and the number of the inhabitants.

He ſhould have the ſoil and the productions of the different countries examined, and every thing which relates to mineralogy.

He ſhould have the natural curioſities collected, as well terreſtrial as marine; he will have them claſſed in their order, and have a deſcriptive catalogue for each ſpecies, in which ought to be

men-

mentioned the places where they have been found, the uſe which the natives of the country make of them, and, if they be plants, of the virtues which they attribute to them.

He ſhould in like manner collect and claſs the clothes, the arms, the ornaments, the pieces of furniture, the implements, the muſical inſtruments, and all the effects uſed by the different people he may viſit; and each object ought to have a ticket or label on it, with a number correſponding with that of the catalogue.

He will get drawn, by the draughtſmen embarked in the two frigates, all the views of the land, and the remarkable ſituations, portraits of the natives of the different countries, their manner of dreſs, their ceremonies, their paſtimes, their edifices, their veſſels, and all the productions of the earth and of the ſea, if the drawings of theſe different objects ſhould appear to him of any uſe, in facilitating the comprehenſion of the deſcriptions the ſcientific men have made of them. All the drawings which ſhall have been made in the voyage, all the caſes containing the natural curioſities, as well as their deſcriptions, and the collection of aſtronomical obſervations, ſhould be put into the hands of the Sieur De La Pérouſe, at the end of the voyage, and no one of the men of ſcience, or artiſts, will be allowed to reſerve for

himſelf, or for another, any of the ſpecimens of natural hiſtory, or other objects, which the Sieur De La Pérouſe ſhall have deemed deſerving to be comprized in the collection deſtined for his Majeſty.

4thly. Before his return to the port of Breſt, at the end of the voyage, or before his arrival at the Cape of Good Hope, in caſe he ſhould put in there, the Sieur De La Pérouſe ſhall cauſe to be put into his hands all the journals of the voyage which ſhall have been kept on board the two frigates by the officers and marine cadets, by the aſtronomers, ſcientific men, and artiſts, by the pilots, and by all other perſons. He muſt enjoin them to keep a ſtrict ſilence relative to the object of the voyage, and the diſcoveries which may have been made, and he muſt demand a promiſe of them to this effect; he muſt aſſure them, moreover, that their journals and papers will be reſtored to them.

## FOURTH PART.

*Of the Conduct to be obſerved with the Natives of the Countries, where the two Frigates may make a Landing.*

THE accounts of all the voyagers, who have preceded the Sieur De La Pérouſe in the ſeas which

which he is about to traverſe, have informed him beforehand of the character and manners of part of the different people with whom he may have to communicate, as well in the iſlands of the great ocean, as upon the coaſts of the north-weſt of America.

His Majeſty doubts not but that, improved by the reading of ſuch authors, he will make a point of imitating the good conduct of ſome of thoſe navigators, and of avoiding the faults of others who have preceded him.

Upon his arrival in any country, he ſhould ſeek to conciliate the chiefs or principal men, as well by marks of good will as by preſents; and he muſt aſſure himſelf of the reſources which he may find upon the ſpot for ſupplying the wants of his ſhips.

He ſhould employ all honourable means to form connections with the natives of the country.

He ſhould ſeek to diſcover what are the merchandizes or objects of Europe to which they appear to attach the greateſt value, and he ought to compoſe an aſſortment which will be agreeable to them, and which may invite them to make exchanges.

He will feel the neceſſity of putting in uſe all the precautions which prudence may ſuggeſt, to maintain his ſuperiority over the multitude, without

out being obliged to employ force; and whatever flattering reception he may meet with from the ſavages, it is important that he ſhould always ſhew himſelf in a ſtate of defence, becauſe it would be to be feared, that his ſecurity might engage them to ſurpriſe him.

Upon no occaſion muſt he ſend a boat aſhore, unleſs it be furniſhed with its ſwivels, firelocks, ſwords, pikes, and a ſufficient quantity of ammunition; it muſt alſo be commanded by an officer, who ſhould be ordered never to loſe ſight of the boat committed to his care, and always to leave ſome men in it for its protection.

He muſt permit no perſon either among the officers or crew to ſleep aſhore upon any account but that of ſervice; and thoſe whoſe functions oblige them ſo to do, muſt retire before night into the tents pitched aſhore, which ſerve as obſervatories or magazines. He muſt place a guard there, where an officer ought always to ſleep, to maintain good order among the ſailors and ſoldiers attached to that duty, and to prevent, by an active and continued watchfulneſs, any attack or enterprize of the ſavages.

He will take care to anchor his Majeſty's frigates within reach to protect the eſtabliſhment; and he ſhould give orders to the officer, who may be on guard, concerning the ſignals which the latter will have to make in caſe of alarm.

As ſoon as theſe diſpoſitions are made, he ſhould employ himſelf in providing for the ſubſiſtence of his crews and the other wants of the ſhips; and after having made a choice as to quantity of his commodities, implements, and goods of every kind, with which the two frigates are furniſhed, he ſhould form a magazine aſhore, under the protection of a guard; but, as he is informed, that in general the iſlanders of the great ocean have an irreſiſtible inclination to theft, he muſt take care not to tempt them by the ſight of too great a number of objects collected together in one place, but to carry every day on ſhore only the effects which may be employed in exchange during the courſe of that day.

He will regulate the value of theſe exchanges, and he will never allow any one to ſurpaſs the price which ſhall be fixed on each article of trade, leſt by agreeing, in the commencement of their dealings, to too high a price for the articles which he would procure, the natives might refuſe to ſell more afterwards at a ſmaller price.

He muſt eſtabliſh only one magazine for the two frigates; and to preſerve good order there and prevent all abuſes, he muſt ſpecially charge an officer to treat with the ſavages, and ſingle out the petty officers or other perſons who will be required to perform, under his orders, the ſervice of the magazine.

No

No officer, or other perſon of the ſtaff, or of the crews, can be allowed, under any pretence whatever, to barter any thing, if the Sieur De La Pérouſe have not given him expreſs permiſſion, and have not regulated the rate of exchange.

If any one of the people of either crew ſhould conceal any article belonging to the ſhips, or any part of the merchandize intended for exchange, the Sieur De La Pérouſe muſt order him to be puniſhed according to the ſeverity of the laws; and he ſhould puniſh ſtill more ſeverely thoſe who, being in the ſervice of the magazine, ſhall have abuſed his confidence, and have ſecreted effects to traffic with, fraudulently.

He will recommend to every perſon among the crews, to live in a good underſtanding with the natives, to endeavour to conciliate their friendſhip by a proper way of acting and reſpect; and he muſt forbid them, under pain of the moſt rigorous puniſhments, ever to employ force for taking from the inhabitants what they may not be willing to part with.

The Sieur De La Pérouſe, on every occaſion, will act with great mildneſs and humanity towards the different people he may have any intercourſe with during his voyage.

He will apply himſelf zealouſly and with intereſt about all the means which may meliorate their condition, in procuring their country vegetables, fruits,

fruits, and trees, uſeful in Europe; in teaching them how to ſow and cultivate them; in acquainting them with the uſe they ought to make of theſe preſents, the object of which is to multiply upon their ſoil the productions neceſſary to a people who draw almoſt all their food from the earth.

If imperious circumſtances, which it is prudent to foreſee in ſo long an expedition, ſhould ever oblige the Sieur De La Pérouſe to avail himſelf of the ſuperiority of his weapons over thoſe of a ſavage people, in order to obtain the neceſſaries of life, in ſpite of their oppoſition, ſuch as ſubſiſtence, water, and wood, he ought not to uſe force but with the greateſt moderation, and ſhould puniſh thoſe of his people with extreme rigour who go beyond theſe orders. In all other caſes, if he cannot obtain the good will of the ſavages by a kind treatment, he ſhould endeavour to conſtrain them by fear and threats, and ſhould not have recourſe to arms but in the laſt extremity, only for defence, and in caſes where moderation might decidedly riſk the ſafety of the ſhips, and the lives of French, whoſe preſervation is committed to his care.

His Majeſty will look upon it as one of the moſt ſucceſsful parts of the expedition, that it may be terminated without coſting the life of a ſingle man.

FIFTH

## FIFTH PART.

### *Precautions to be taken for preſerving the Health of the Crews.*

THE Sieur De La Pérouſe knowing the intention of his Majeſty with regard to the conduct he ſhould obſerve towards the ſavage nations, and the wiſh his Majeſty has, that the viſit of Frenchmen, far from being a misfortune to theſe people, may, on the contrary, procure them advantages of which they are deprived, will certainly foreſee what particular care he ought to pay to the preſervation of the crews employed in the expedition which his Majeſty has truſted to his conduct.

The ſhips under his orders are abundantly provided with every aid which can prevent the diſeaſes of the ſea, or arreſt their progreſs, as well as with thoſe which are intended as ſubſtitutes for ordinary diet, and to correct its bad effect. He will keep a watchful eye, that thoſe various helps and ſuccours are uſed properly, and in due meaſure; and will be extremely vigilant concerning the various reſources, which the different ports into which he puts may offer him, for procuring refreſhments and wholeſome aliments for his crews, in order to repair the effects of a long uſe of ſalt meats.

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His Majeſty confides in the prudence of the Sieur De La Pérouſe as to the form which may appear to him the moſt convenient to be eſtabliſhed on board the two frigates for the ſtowage of the ſhip's proviſion in the hold.

He ſhould take care to inſpect and air, while he remains in port, ſuch parts of the ſhip's ſtores as evince a tendency to decay, the progreſs of which may be ſtopped by this precaution.

He will neglect no opportunity to procure freſh fiſh for his crews, and to renew his ſalted proviſion by the means which have been put within his power, and in making uſe of the method which has been practiſed with ſucceſs by the navigators of later times who have traverſed the great ocean.

The Sieur De La Pérouſe is not uninformed, that one of the precautions, which contribute the moſt efficaciouſly to preſerve the health of the ſeamen, is the continual attention to keep the ſhips and crews extremely clean.

He will make uſe to this effect of all the known means, ſuch as ventilators, fumigations, and perfumes, to renew and puriſy the air of the holds and between decks. He will every day, if it can be done, have the hammocks and the clothes of the crews expoſed to the open air; and in order that the ſailors and other perſons on board may not neglect the cleanlineſs of their perſons, he ſhould divide them into ſquads, the inſpection and

and care of whose conduct he will distribute among the officers of the two frigates.

Each of the officers ought to render an account every week, to the captain, of the state of the clothing and of the wants of the squad which has been committed to his care; and upon the order of the Sieur De La Pérouse, the clothing for supplying such deficiencies, which his Majesty has ordered to be embarked, will be given out to the crews of the two ships, according to the distribution which shall have been regulated by the commanding officer, and in the circumstances where he shall judge this assistance necessary.

The Sieur De La Pérouse should establish the most exact discipline among the crews of the two frigates, and he will carefully keep a strict hand to prevent any relaxation in this respect; but this severity, seasonable in every part of service, and absolutely necessary in a voyage of several years, will be tempered by the constant effect of those paternal cares which he will owe to the companions of his fatigues; and his Majesty, knowing the sentiments with which he is animated, is assured, that he will be constantly occupied in obtaining for his crews all the accommodation, and all the indulgence he can grant to them, without injury to the interests of the service and the object of the expedition.

His Majesty could not give to the Sieur De La Pérouse a more distinguished mark of the confidence he has in his zeal, his ability, and his prudence, than in committing to him one of the most extensive enterprizes which has ever been projected. Some of the navigators, who have preceded him in the career of discoveries, have left him great lessons and great examples; but his Majesty is persuaded, that, equally ambitious of glory, equally zealous for the increase of human knowledge, equally persevering as his models, he will one day deserve to be considered one himself for those, who, stimulated by the same courage, are desirous of contending for the same celebrity.

## *NOTE.*

In drawing up a plan of navigation for the voyage of discovery, the conducting of which is confided to M. De La Pérouse, the object has been for him to follow, in the different seas, tracks which have not been followed by any of the navigators who have preceded him; this step has appeared to be the most sure of multiplying discoveries, and of considerably advancing in this voyage the great work of the complete description of the terrestrial globe.

There has nevertheless been a necessity for pointing out islands already known, as ports where there is a certainty that M. De La Pérouse may procure subsistence by means of barter and exchange, for which the means are furnished him by the

quantity of merchandize of every kind which compoſes the aſſortment, accommodated to the fancy of the iſlanders, with whom he will have occaſion to trade. But in communicating to the French commander the places for refreſhment and repoſe that have already been frequented, attention is had to direct him to arrive there by tracks, which have not hitherto been followed; and in the number of merchandizes, with which he has been furniſhed, it has not been neglected to put up many of kinds which are not yet known in the iſlands he may touch at, in order that the natives of the country may know, that the nation which brings them, is a new nation to them, and one by which they have not yet been viſited.

Different elements of calculation have been employed to eſtimate the duration of time in performing the different runs. In the common ſailing in open ſeas, it is ſuppoſed that the ſhips with trade winds might run thirty leagues in 24 hours; twenty-five leagues only have been allowed to the ſame ſpace of time, for thoſe parts where prudence requires the ſhips ſhould lie to a part of the night; twenty leagues only where the ſhips are on diſcovery: and in this laſt caſe, a certain number of days are added for the time which is loſt in reconnoitring and inſpecting a coaſt. It is from theſe data, that the time neceſſary for making the runs, and remaining in port, has been eſtimated; but all theſe calculations may be influenced by the circumſtances of the ſhips, the events of the voyage, and unforeſeen accidents.

The total duration of the voyage will neceſſarily exceed four years; it would be impoſſible in a ſmaller ſpace of time to fulfil all the objects his Majeſty has in view. The periodical returns of the different monſoons in the ſame time, to the

the north and ſouth of the line, are *data* to which the courſe is neceſſarily ſubjected, and which infinitely oppoſe the navigation in the neighbouring ſeas of the archipelagoes, and of the continent of Aſia, by the obligation the navigator finds himſelf under of going into each tract of ſea, only when the winds are favourable. This conſideration of the monſoons has required different combinations, to accommodate the courſes to it, without greatly augmenting the total duration of the voyage, ſo that each particular run ſhould not exceed the limits preſcribed by the quantity of wood and water, which each ſhip can carry for her complement of men. Further, his Majeſty's ſhips are furniſhed with ſtores of every kind, more than ſufficient to laſt a four years voyage, in adding the accidental reſources which the accounts of modern navigators have pointed out, and which the foreſight and activity of M. De La Pérouſe will inſtruct him how to procure, at the different places where he may put in. The laſt voyage of captain Cook laſted four years, two months, and twenty-two days; and his veſſels were not provided as thoſe of his Majeſty will be.

If, as there is reaſon to expect from the zeal and capacity of the commander of the expedition, all the objects pointed out in his inſtructions ſhall have been fulfilled, the voyage of M. De La Pérouſe will leave hereafter to navigators, who would attempt diſcoveries, only the merit of giving to the world more circumſtantial details of ſome portions of the globe.

There remains to be made known the ſteps which have been followed in the conſtruction of the hydrographic charts, which will be put into

the hands of the commanders of the ſhips, after his Majeſty ſhall have approved of them.

Firſt a chart of the ſouthern ocean has been prepared, upon which are traced, from the journals of navigators, the courſes which have led them to diſcoveries; and thoſe are pointed out which yet remain to be made or verified. This chart has been conſtructed from the beſt French, Spaniſh, Engliſh, and Dutch charts; and it has been ſubjected to aſtronomical obſervations, by which the poſitions of the principal points of the continents and iſlands have been determined.

The extent of the great ocean, commonly called *the South Sea*, or *Pacific Ocean*, has neceſſitated the diviſion of it into three bands or zones, of which the firſt contains the Auſtral Ocean, or the ſpace contained between the antarctic circle, and the tropic of Capricorn.

The ſecond, the great Equatorial Ocean, or interval comprized between the two tropics.

The third and laſt, the great Boreal Ocean, or the ſeas encloſed between the tropic of Cancer, and the arctic circle.

As the courſes of M. De La Pérouſe will not carry him beyond the ſixtieth parallel of north and ſouth latitude, it has been thought uſeleſs to trace, on the charts prepared for his voyage, either the great Polar Boreal Ocean, or the great Polar Auſtral Ocean.

To accompliſh the laying down the chart of the Great Ocean, the journals of all the navigators of this century, and of thoſe of anterior periods, who have navigated this ſea, have been conſulted. The plans of the details which they have given have been conſulted, and by reducing their ſcale, they have been made to enter into this general

general chart. The known tracks of all navigators, ancient and modern, are traced thereon, in order to place under one point of view, the recent diſcoveries, with thoſe of former periods, and to prove in certain caſes, their identity.

This general chart of the Great Ocean is the reſult of all that navigators and geographers have produced up to this time. It will not be endeavoured to repreſent here in detail the various materials, which have been examined, and employed; the mere enumeration would require a volume. All that remains to be done is, to join to the King's inſtructions to M. De La Pérouſe a few geographical and hiſtorical notes, upon ſome parts which require to be more particularized, and there will be added to the two charts of the *Southern Atlantic Ocean* and *Great Ocean*, a collection of thirty-ſeven other charts, or original manuſcript plans, of the leaſt frequented parts of thoſe ſeas.

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*Extract from M. De La Pérouſe's general Inſtructions.*

*26th June*, 1785.

HIS Majeſty authorizes the Sieur De La Pérouſe to grant ſome months pay to the crews as a bounty, the quantity of which he will regulate according to circumſtances: he will only obſerve, that the ſum of ſuch bounties, during the whole voyage, muſt not exceed one year's pay. Beſides theſe bounties, which he will grant

according to merit to the petty officers, ſailors, and ſoldiers, he will give the two crews to underſtand, that it is the intention of his Majeſty, that the pay of thoſe who ſhould die during the voyage, reckoning from the day of their deceaſe, ſhould be thrown into a maſs, to be diſtributed in gratification to the people compoſing that crew, of whom the deceaſed man made one; and that the pay acquired unto the day of his death be accounted for to his family, as well as the value of his clothes, if they ſhould have been diſtributed.

## NOTES,

## GEOGRAPHICAL AND HISTORICAL,

*To be added to the King's Memoir, ſerving as a particular inſtruction to Monſieur De La Pérouſe, Captain in the Navy, commanding the Frigates La Bouſſole, and L'Aſtrolabe.*

### Southern Atlantic Ocean.

Note 1. *The three ſunken rocks*, ſituate to the ſouth-ſouth-weſt of the iſland of St. Jago, one of the Cape de Verd iſlands, as well as the French Beacon, and the breakers ſeen by the Cæſar, in 1730, to the ſouth-ſouth-eaſt of the ſame iſland, are laid down after the Engliſh chart of

of the Atlantic ocean, publiſhed at London, in 1777, in four ſheets *.

2. *Pennedo de San Pedro.* Its latitude, 0° 55′ north, is conformable to that which Monſieur Daprès affirms to have obſerved in 1750, in the ſhip Le Rouillé. See *Le Diſcours du Neptune Oriental* of Monſieur Daprès.

He fixes its longitude at 29° 0′ weſt of Paris, and he deduces it from the difference of longitude known between the iſland of Aſcenſion and Pennedo, which he fixes at 12° 40′.

But Monſ. Daprès then calculated from an obſervation made in 1754 by the Abbé De La Caille, that the iſland of Aſcenſion was in 15° 19′ weſt longitude; and as this longitude, verified and fixed by the obſervations of captain Cook, is 16° 54′, (ſecond Voyage, vol. 2, page 276 of the original) it thence reſults, that in admitting the difference of meridians, ſuch as Monſ. Daprès gives, between Pennedo de S. Pedro and the Iſland of Aſcenſion, the longitude of Pennedo ought to be 29° 34′ weſt of Paris, and is that which has been adopted in the chart put into the hands of Monſ. De La Pérouſe.

* This chart, for the part compriſed between the 14th and 47th degree of north latitude, is the copy and tranſlation of that which was drawn up and publiſhed by Fleurieu, and which is added to his *Voyage à differentes parties du monde, etc. Paris, imprimerie royale,* 1773, 2 vol. quarto. *(Fr. Ed.)*

A deſcription of Pennedo is found in Monſ. Daprès's *Diſcours du Neptune Oriental*, p. 189.

3. *The ſhoals and banks near the Line* are placed after the inſtruction of the *Neptune Oriental*, page 9.

The little *Iſle de Sable*, or *Iſland of St. Paul*, which was ſeen in the ſame track, in 1761, by the ſhip le Vaillant, commanded by M. Bouvet, is laid down from *Sailing Directions for the Eaſt Indies*, London, 1781, page 7. This poſition is conformable, as to latitude, to that which has been given it upon the general chart, which is joined to the relation of the third voyage of captain Cook, 0° 25′ ſouth, but it differs in 35′ as to longitude.

Its longitude weſt from Paris would be 21° 25′, according to the *Sailing Directions*, which give it after the journal of M. Bouvet, but it is carried to 20° 45′, in order that it may agree with the correction of Pennedo. See note 2.

5. *Iſland of Fernando de Noronha.* This iſland is laid down conformably to the latitude and the longitude determined by captain Cook.

| | | |
|---|---|---|
| Latitude - - - | 3° 53′ | 0″ ſouth, |
| Longitude - - - | 34 53 | 50 weſt of Paris. |

See *Cook's ſecond Voyage*, vol. II, pages 278 and 279 of the original.

The diſtance of this iſland from the neareſt part of the coaſt of Brazil being fixed between ſixty and

and ſeventy leagues, according to the Portugueſe journals and the Spaniſh chart of South America, publiſhed by Cruz Cano y Olmedilla, in eight ſheets, in 1775, the longitude of the coaſt of Brazil may be conſidered as determined; and it has been made to conform to that of the Iſland of Noronha, by giving it 2 deg. $\frac{2}{3}$ of difference to the weſt.

6. *The Iſland of St. Matthew* was recogniſed in 1725 by Garcia de Loaes or Loayſa, a Portugueſe captain, but it had been diſcovered 87 years before that period. (*Tratado dos Deſcubrimentos, &c. de Galvao*, Liſbon, 1731, page 66.) It is placed according to the general chart of *Cook's third Voyage*. The poſition is uncertain, and that celebrated navigator has regretted not having it in his power to determine it.—*See Cook's ſecond Voyage*, vol. II, page 276 of the original.

7. The latitudes and the longitudes of the *Iſland of Fernando Po, Prince's Iſland, St. Thomas, and Annobon*, are fixed, according to the obſervations made in 1779, by Don Varella, an officer in the Spaniſh navy, as follows:

| | | | | |
|---|---|---|---|---|
| Iſland of Fernando Po, St. Charles's Road, | Latitude | 3° | 28′ | north, |
| | Long. | 6 | 30 | weſt of Paris. |
| Prince's Iſland, at the port - - - - | Latitude | 1 | 39 | north. |
| | Longit. | 5 | 2 | weſt. |
| St. Thomas's Iſland, at the port - - | Latitude | 0 | 20 | north. |
| | Longit. | 4 | 34 | weſt. |
| Annobon Iſland, at the north coaſt - - | Latitude | 1 | 25 | ſouth. |
| | Longit. | 3 | 25 | weſt. |

According

According to theſe longitudes, thoſe of Cape Verd, of Sierra Leona, the Iſles de Los, and of the Cape of Good Hope, where obſervations have in like manner been made, the poſitions of the different points have been regulated from the weſt coaſt of Africa.

8. *Aſcenſion Iſland*, is laid down from the obſervations of Captain Cook:

Middle of the iſland { Latitude 8° 0′ / Longit. 16 50 weſt of Paris.

*(Cook's ſecond voyage*, vol. II, page 276 of the original.)

According to the Abbé De La Caille, the latitude would be only 7° 57′, and the longitude, deduced from an emerſion of the firſt ſatellite of Jupiter, 16° 17′, (ſee Mémoires de l'Académie des Sciences for the year 1754, page 129) but it has been thought neceſſary to adhere to the determinations of Cook, which are the reſults of a great number of obſervations. There is to be found in the account of the ſecond voyage *(loco citato)* a very particular deſcription of Aſcenſion iſland.

9. *The Iſland of St. Helena* is alſo placed after the obſervations of Cook and thoſe of Halley.

At Fort James { Latitude 16° 0′ ſouth, according to Halley: / Longit. 8. 11 weſt of Paris, according to Cook.

*(Cook's ſecond Voyage*, vol. II, page 270 of the original.)

According to Mr. Maſkelyne, aſtronomer-royal at Greenwich, the latitude of the iſland of St. Helena is 15° 55′, and its longitude, deduced from an obſervation made by him of the firſt ſatellite of Jupiter, would be 8° 9′.—(Britiſh Mariner's Guide, 1763, in quarto.)

10. *Iſland of Trinidad.* This iſland is placed, from its diſtance to Cape Frio, on he coaſt of Brazil, ſuch as it is given by Monſ. Daprès, (*Diſcours du Neptune Oriental*, page 10) from which it reſults:

North coaſt, { Latitude 20° 25′ ſouth. / Longit. 32 15 weſt of Paris.

Iſle dos Picos is laid down according to the Dutch charts, ſubjecting its poſition to that of Trinidad.

11. *Iſlands of Martin-Vas.* Theſe are three rocks which lie reſpectively to each other north and ſouth, except the moſt northerly, which is a little more to the weſtward; they do not occupy more than a mile in extent.—(Extract from the *Original Journal of Halley*, printed in the *Collection of Voyages in the Southern Atlantic Ocean, by A. Dalrymple*, London, 1775, in quarto, page 53.)

In the *Journal de M. Lozier Bouvet*, (printed in French, *ibid*, page 7 of this journal) it is ſaid, that the ſmall iſlands of Martin Vas are at eight leagues diſtance, and bear eaſt ¼ north of the *Iſland of Trinidad.* Their latitude is the ſame as that of this iſland.

12. The

12. *The Island of Ascencaon*, on the coast of Brazil, is placed according to the notes of M. Daprés, page 9 of *Discours du Neptune Oriental:*

| | | | |
|---|---|---|---|
| Latitude | - | - | 20° 25′ south |
| Longitude | - | - | 38 0 west of Paris. |

This position supposes, that its distance from Cape Frio is 120 leagues, as M. Daprès shews (ibid page 9).

13. *Rock discovered in* 1692, *and sunken rock in* 1701. These dangers are placed after Mr. Dalrymple's chart of the South Sea, which is to be found at the end of the work cited in the 11th note.

14. *Island Saxenburgh.* This island was discovered in 1670 by John Lindestz Lindeman, a Dutchman, in 30°¾ of south latitude, and about 22 degrees of west longitude from Paris, being aware of the change made in the position of the other islands in the same track of sea, with which navigators were led to place it by the bearings and distances of their reckonings.—See *Navigations aux Terres Australes*, by the President De Brosses, vol. II, page 48.

15. *Kattendyke* is laid down according to Dalrymple's chart belonging to the work cited in the 11th note, and from the general chart of *Cook's third Voyage.*

16. *Islands of Tristan d'Acunha.* The rule followed for laying down these islands is from the instruction of M. Daprès (page 10 of *Neptune Oriental*) which fixes the latitude of them between 37°

37° 10′ and 37° 45′ ſouth, and their longitude at 16° 30′ or 17 degrees weſt of Paris, from a mean reſult between the different courſes of ſeveral ſhips, which point out 34 degrees for the difference of longitude between theſe iſlands and the Cape of Good Hope, which is 16° 3′ 45″ eaſt of Paris.

Halley ſays, in his journal, that he has determined the latitude of the moſt ſoutherly of theſe iſlands to be 37° 25′ ſouth.—See page 41 of his journal in the work of Mr. Dalrymple, cited in note 11.

A deſcription of theſe iſlands is to be found ſufficiently particularized in the inſtructions of *Neptune Oriental*, by M. Daprès, page 10.

Beſide the anchorage of the north of the principal of the iſlands of Triſtan d'Acunha, marked in the chart put into the hands of M. De La Pérouſe, it is further known (from the report of a navigator worthy of credit, whence the following particulars are learnt) that there is a kind of port or haven to the eaſt of the ſouthern point: this port is not viſible in running down the coaſt, becauſe it is concealed from the view by great canes or reeds, which being thrown down and lying upon the ſurface of the water, croſs each other by certain winds, and totally maſk the entrance of the port; it may be half a mile in breadth by three quarters of a mile in length; its figure is very nearly that of a horſe ſhoe. The water is found

to

to be twenty-eight fathoms in the middle of the entrance, and fourteen near the ſhore; the depth of water is alſo fourteen fathom in the middle of the length, and ten fathom only at the head of the harbour; the bottom is a black ſand, and good holding ground.

It is neceſſary to obſerve, that the ſouthern point, that is to ſay, that of the ſouth weſt of the iſland, is terminated by ſome rocks or breakers, which run out near a quarter of a mile; they are not laid down uponthe chart delivered to M. De La Pérouſe, becauſe it is a copy, without the leaſt alteration, of the only plan known of theſe iſlands, upon which theſe breakers are not laid down.

17. *Iſland of Diego d'Alvarez.* It is laid down after the general chart of *Cook's Third Voyage*, and by the iſlands of Triſtan d'Acunha, preſerving the bearing and diſtance which this chart gives it from theſe laſt iſlands.

| | | |
|---|---|---|
| Latitude | - - | 38° 53′ ſouth. |
| Longitude | - - | 13 o weſt of Paris. |

18. *Gough's Iſland.* So called from the name of an Engliſh Eaſt India Captain, who diſcovered it in 1715. In the *New Directory for the Eaſt Indies*, by W. Herbert, W. Nicholſon, and others, (5th edition, 1780, pages 371 and 372) it appears, that Gough Iſland is a high land, ſituate in 40° 15′ ſouth latitude, and 1° 57′ to the weſt of Greenwich, or 4° 17′ to the weſt of Paris. Captain

tain Vincent, commanding the Oſterley, a ſhip belonging to the ſame Company, alſo made Gough Iſland in 1758, in the latitude pointed out by him who diſcovered it; but he believes, according to his reckoning, that in placing it in 1° 57′ weſt of Greenwich, it is carried a few degrees too far to the eaſt.

This iſland is not known to French navigators, but, as it may be fallen in with by ſhips, which, willing to go directly to the Indies or to China, early in the ſeaſon, without touching at the Cape of Good Hope, might keep in higher latitudes, in order afterwards to make the iſlands of Saint Paul and Amſterdam, it will, without doubt, appear intereſting to determine its true poſition, and it is to be wiſhed, that M. De La Pérouſe, who has the means of doing it, may be near enough to give it his attention.

19. *Iſle Grande of La Roche.* This iſland is only to be placed by conjecture from the following account, which has been extracted and tranſlated from the Spaniſh work entitled *Deſcripcion geographica y derrotero de la Region auſtral Magallanico, etc. por el Capitan don Franciſco de Seixas y Lovera; en* Madrid, 1690 *in* 4to; fol. 29.

" In the month of May, 1675, Anthony De La " Roche, a Frenchman by birth*, then in the ſer-" vice

* It is ſurely by miſtake that captain Cook, in the general introduction to his ſecond Voyage, page xv. of the original,

" vice of the Engliſh, returning from the iſland " of Chiloe, on the coaſt of Chili, having doubled " Cape Horn, and wiſhing to enter into the South " Atlantic Ocean by the Straits of le Maire, (it was " not known then that there was a channel to the " eaſt of Staten-Land) met with ſtrong weſterly " winds and rapid currents, which carried him ſo " far to the eaſtward, that it was impoſſible for " him to get hold of the land which forms the " Strait of Magellan. The month of May was " already far advanced; the winter was beginning " in theſe climates, and la Roche began to de- " ſpair with regard to his voyage. His uneaſineſs " grew greater ſtill when he ſaw unknown land " before him to the eaſtward*; he did all he could " to approach and ſurvey it, and he ſucceeded in " fetching a bay, in which he anchored near a " cape or a point of land, which ſtretched to the " ſouth-eaſt. Here he found twenty-eight, thirty, " and forty fathom water, ſandy and rocky bot- " tom: he diſtinguiſhed on the land, not far from " the coaſt, ſome mountains covered with ſnow: " he was expoſed to very ſqually weather, and

nal, in ſpeaking of Anthony La Roche, repreſents him as *an Engliſh Merchant.*

* This land, as will be ſeen in the following note, is the ſame that M. Duclos Guyot made in 1756, and that captain Cook, when he inſpected the north-eaſt coaſt, denominated *Georgia Iſland.*

" ſtaid

" ſtayed there fourteen days. The weather at " laſt cleared up; he then found out that he had " anchored at one of the extremities of this land, " and he diſcovered, to the ſouth-eaſt and to the " ſouth, other high lands covered with ſnow.— " A little breeze from the ſouth-eaſt enabled him " to get under way, and, while making ſail, the " coaſt of the ſaid iſland* bore weſt, and the " ſoutherly lands ſouth and ſouth eaſt: it ap- " peared to him, that the channel between the " iſland and the main was about ten leagues " in breadth; the currents drifted him with vaſt " ſwiftneſs to the north-eaſt; and in ſteering " to the eaſt-north-eaſt, he found himſelf, in an " hour and a half, out of the paſſage, which he " ſaid was very ſhort, becauſe the new iſland, " which forms this channel, with the land to the " ſouth eaſt, is very ſmall†.

" In quitting this iſland‡, he ran for twenty-

* This ſuppoſes what is not expreſſed in the narrative, that he had anchored at the point of a main land which had an iſland to the weſt or to the north weſt.

† It appears that La Roche paſſed, as well as Cook, between the iſlands called by the latter *Willis Iſland* and *Bird Iſland*, but that he judged ill concerning the ſize of the channel.

‡ La Roche, in ſpeaking of the variation of the compaſs near the eaſt coaſt of his ſtraits, ſays, that it was 19 degrees. (*Antonio de la Roche, en ſu Derrotero*, fol. 22 & 23.— See *Seixas y Lovera*, fol. 47.)

" four hours to the north-weſt, then he was over-
" taken by ſo violent a ſoutherly gale, that it
" obliged him to run for three days northward, as
" far as the forty-ſixth degree of ſouth latitude.

" The wind moderated, and La Roche, then
" thinking himſelf out of danger, ſtood for All-
" Saints Bay, and in the latitude of 45 degrees
" met with an iſland which he reported to be
" very large, agreeable to the view, and having
" a good harbour in the eaſtern part, in which
" he found water, wood, and fiſh; but he ſaw
" no inhabitants during the ſix days he paſſed
" there.

" From this harbour he went to All-Saints
" Bay."

In laying down *Iſle Grande*, the poſition of the firſt land that La Roche diſcovered to the eaſtward of *Staten Iſland*, and which has been found again in theſe latter times (the Georgia Iſland of Cook) has ſerved as a guide. In conſequence the ſouth coaſt of *Iſle Grande* is laid down in 45 degrees of latitude, according to the indication of La Roche, and at about thirty leagues more weſtward than the firſt land he diſcovered, becauſe it has been obſerved that in quitting this he ran twenty-four hours to the north-weſt; and that it is probable that the gale from the ſouth, by which he was overtaken, partook a little of the ſouth-eaſt wind which had blown to that time; and, in ſhort,

that

that after the gale of wind ceaſed, until the diſcovery of *Iſle Grande*, in 45 degrees of latitude, he had conſtantly made northing, which was his courſe to the Bay of All-Saints.

Every thing leads to a belief, that the *Iſle Grande of La Roche* is the ſame land that Americus Veſpucius diſcovered in his third voyage in 1502.—The geographers of the laſt two centuries have aſſigned different poſitions to this land of Veſpucius, becauſe they were unacquainted with the original journal of that ancient navigator; and becauſe it has not been found ſince the period of its diſcovery, modern geographers have effaced it from their charts. However, in conſulting the original letters of Americus Veſpucius, in which he gives an account of his voyages*, it appears that it is not impoſſible to fix, very nearly, the poſition of the land which he diſcovered in 1502. He ſays, in the journal of his third voyage (page 54 of his letters) that having gone out of a harbour from the coaſt of Brazil, ſituate in 32 degrees of ſouth latitude, (this may be the harbour called *San Pedro*) he ran ſouth-eaſt as far as 52 degrees of latitude, where he no longer ſaw the ſtars of the Leſſer Bear, or thoſe of the Greater. It is

* *Vita e Lettera di Amerigo Veſpucci raccolte ed illuſtrate dall' abbate Angelo-Maria Bandini.* Firenze, 1745, 1 vol. *in* 4to. See alſo *Novis Orbis*: Baſileæ, 1555, in fol. page 226 and following.

neceſſary to obſerve, that Veſpucius, in ſpeaking of his courſe, paid no attention to the variation of the compaſs, which, at the time of his voyage, muſt needs have been, in theſe ſeas, from 19 to 20 degrees eaſt, and therefore this, which he calls a ſouth-eaſt coaſt, ought to be conſidered as having been in fact nearly a ſouth-ſouth-eaſt courſe: conſequently, on departing from the coaſt of Brazil, in 32° 0′ of latitude, to croſs the parallel of 52° 0′ by a ſouth-ſouth-eaſt courſe, the point of ſection is found at about 44° 0′ to the weſt of Paris, that is to ſay a little to the weſt of the meridian, under which Iſle Grande is ſuppoſed to lie, and 140 leagues, or thereabouts, ſouth, a little weſtward of this iſland. Veſpucius, being in this poſition, the third of April, was overtaken by a gale of wind, which obliged him to run under bare poles; he continued to run in this way till the 7th, when he fell in with new land, which he coaſted for the ſpace of twenty leagues; it appeared to him to be of difficult acceſs, without harbour and without inhabitants. Seamen will agree, without any ſtretch of imagination, on the probability, that during the four days that Veſpucius was driven to the northward by a violent ſouth-weſt wind, he might run, though under bare poles, thirty-five leagues in every twenty-four hours; and that he might conſequently be driven as far as 45° 0′ of latitude, having ſet out at 52° 0′. What

may

may give to this opinion conſiderable weight is, that Veſpucius ſaid, that in quitting the new land he judged himſelf to be thirteen hundred leagues from the coaſt of Ethiopia (from Sierra Leona) where he landed the tenth of May following, and that to arrive there he conſtantly ſteered between a north and north-eaſt courſe, therefore, Sierra Leona lies north-north-eaſt two or three degrees eaſt of Iſle Grande, (according to its poſition in the chart given to M. De La Pérouſe) and at twelve or thirteen hundred leagues diſtance. After all, no iſland is known at this diſtance from the coaſt of Ethiopia, and in the direction of north-north-eaſt and ſouth-ſouth-weſt, which can preſent an uninterrupted continuance of twenty leagues of coaſt; and as the veracity of Veſpucius, upon a fact of this nature, cannot be ſuſpected, his teſtimony ought to be regarded as an ancient proof of the exiſtence of Iſle Grande, confirmed by the more recent accounts of Anthony De La Roche.

20. *Terre or Iſland of La Roche*, by Cook denominated *Georgia Iſland*. The preceding note has ſhewn the epoch and the circumſtances of the diſcovery of this iſland by Anthony De La Roche; but the relation that Seixas has left us does not point out the latitude; we only know that, to come from this land to Iſle Grande, which La Roche fell in with in 45° 0′, he ran twenty-four hours to the north-weſt, and that a ſtrong ſoutherly wind had

blown him for three days to the northward; but it cannot be doubted, that the firſt iſland or land which he diſcovered was to the eaſtward of *Staten Iſland*, and that this ſame iſland had been re-diſcovered, in 1756, by M. Duclos Guyot, before captain Cook noticed it in 1775, and had determined its poſition.

M. Duclos Guyot, of St. Malo, commanded the Spaniſh veſſel the Lion, returning from Lima. He doubled Cape Horn, entered the Southern Atlantic Ocean and found himſelf to the eaſtward of Staten Iſland.

"The 28th of June, 1756," ſays M. Duclos Guyot, "at nine o'clock in the morning, we "thought we ſaw land ahead, though very diſ- "tant, appearing like clouds, and of an extraordi- "nary height; at that time we were ſtanding "to the north-north-eaſt. The hazineſs of the "weather did not allow us to convince ourſelves of "it; moreover, not ſuſpecting we could be nearer "any land than the Malouines, which, accord- "ing to our reckoning, bore weſt-north-weſt, "diſtant 135 leagues, and finding ourſelves at "noon to be in 55° 10′ latitude by obſervation, "and in 52° 10′ longitude, weſt of Paris, by our "reckoning, we continued our courſe without "regard to land. The 29th at noon having gotten "ſight of a little iſland before us, we put about, "and ſounded three hundred fathom, no ground.

"At

" At nine o'clock we diſcovered a continent of " about twenty-five leagues in length, lying north- " eaſt and ſouth-weſt, full of ſteep mountains, of " a frightful aſpect, and of ſo extraordinary a " height, that we could ſcarcely ſee their ſummits, " though at more than ſix leagues diſtance; the " quantity of ſnow which covered them hindered " us from obſerving whether they were wooded. " The obſervations upon which we can beſt rely, " and which we were able to make (being then " three leagues from the little iſland, which was " at an equal diſtance from the great land), are, " that there is a very deep creek in this continent, " lying about eight leagues eaſt and weſt from the " ſaid iſland; it was the only place which appeared " to us proper to be inhabited; we might have " been ten or eleven leagues off. It appeared to " us to be of great extent as well in length as in " breadth; there is on the larboard hand, at its " entrance, to the north-north-weſt of us, a low " point, the only one we could ſee from its mouth; " it appeared to us detached from the main land; " we even thought that it was an iſland, or that, " if it joined the land, it muſt have been by an " iſthmus.

" The 30th at break of day, we might have " been at ten leagues from this new land; in this " poſition we obſerved no current, and we found " no bottom; we always ſaw plenty of birds and " ſea wolves.

" At noon, the land preſented the ſame aſpect, " except the ſummits of the mountains, which " were covered with clouds; the calm and very " fine weather enabled us to take a good obſerva- " tion, and at noon we found the latitude 54° 50′, " our longitude, by reckoning, was 51° 32′ weſt.

" The firſt of July, at day break, thinking our- " ſelves far enough from land, we ſteered eaſt- " ward, to obſerve if the ſaid land extended itſelf " further in this direction. At eight o'clock in " the morning we ſaw its moſt eaſterly point, bear- " north 5 degrees eaſt*, diſtant about twelve " leagues; at noon, continuing the ſame courſe, " we were in 55° 23′ latitude by account, and " 51° 0′ weſt longitude.

" The 2d, light breezes from weſt-ſouth-weſt " to weſt-north-weſt, hazy weather, abundance " of ſnow; courſe eaſt-north-eaſt. Endeavouring " to diſcover the length of the land on this ſide, " at the break of day, there being a ſettled calm, " we found ourſelves ſurrounded by pieces of ice " of different forms, many of them being at leaſt " thirty-five fathom elevated above the water, and " more than a mile and a half in extent; we re- " marked alſo, that there was a ſtrong current, and

* The 28th of June, at night, the eve of the diſcovery, the variation of the compaſs was obſerved thirteen degrees and a half eaſt; and the fourth of July it was thirteen degrees.

" we

" we ſaw many more birds than uſual, eſpecially a " great quantity of entirely white pigeons, like " thoſe of the coaſts of Patagonia, and alſo many " whales; from all theſe remarks we thought, that " we might be upon a bank. In conſequence we " ſounded, but without finding any bottom; we " were then out of ſight of land; latitude by ac- " count 55° 28′, longitude 49° 40′ weſt."

After that day M. Duclos Guyot never ſaw the new land more, to which he gave the name of *Iſle De Saint Pierre.*

On his landing at St. Jago, one of the Cape de Verd Iſlands, he diſcovered (as he had imagined, by the variation of the compaſs, which he had found to be 13° ½ and 13 degrees, inſtead of 19, that which ought to have been expected by the longitude he reckoned himſelf in when in ſight of the Iſland of St. Pierre) that the currents, after he had doubled Cape Horn, had carried him 10° 56′ eaſtward of his reckoning. " Conſequently (ſays " M. Duclos Guyot) the poſition of the land, that " we diſcovered the 29th of June, may be deter- " mined; being ten leagues to the ſouthward, " when we had the beſt ſight of it, (the 30th) our " latitude by obſervation was 54° 50′, and our " longitude by reckoning 51° 32′ weſt." Deducting the 10° 56′ which the veſſel was driven eaſtward, there remains for the longitude of the iſland 40° 36′ weſt of Paris, which M. Duclos Guyot

Guyot reduces to 40° 30′ for the moſt eaſterly part he ſaw; and he fixes the latitude of the moſt ſoutherly part at 54° 20′.

Captain Cook lays down the Iſle de Saint Pierre (or *Georgia* as he calls it) between 53° 57′ and 54° 57′ of latitude, and between 40° 33′ and 37° 54′ longitude weſt from Paris. (Cook's ſecond voyage, vol. 11, page 218 of the original) It may be ſeen, that the poſition which M. Duclos Guyot aſſigned to this ſame land is not very defective, although he was unprovided with the neceſſary means for determining the longitude with preciſion; his error ariſes from the length of the iſland only from eaſt to weſt, and there is no navigator who ought not to meet with it after the poſition he has given to it, eſpecially if it be ſought on the weſt ſide; his error conſiſted in laying it down about 30 leagues too much to the weſtward.

M. Duclos Guyot, in terminating what concerns his Iſle de Saint Pierre, ſays, "theſe are our beſt authenticated remarks, and we do not doubt, although we cannot aſſert it poſitively, *that there is other land to the eaſtward of that which we have ſeen:* every thing demonſtrates it; ſea-weeds, ice, fiſhes, trees, and birds."—It was in the year 1756, that he expreſſed himſelf in this manner.

21. *Sandwich Land*, diſcovered in 1775. It is placed on the chart from the journal and the calculation

culation of captain Cook. See his ſecond voyage, vol. II, page 222 and following, in the original.

This land calls to recollection the Gulf of San Sebaſtiano, and the land marked upon the ancient chart, ſouth and ſouth-eaſt of the *Terre De La Roche*.

22. Chriſtmas Sound, upon the ſouth-weſt-coaſt of *Terra del Fuego*. See the chart and the journal of Cook's ſecond voyage, vol. II, pages 177 and 198 of the original.

## GREAT SOUTH SEA.

23. Drake's Iſland and Harbour, placed by geographers at a hundred and eighty, or two hundred leagues weſt-ſouth-weſt of Cape Horn. There have been many accounts of Sir Francis Drake's voyage round the world, publiſhed in England: they differ eſſentially, one from the other, reſpecting the poſition of the lands diſcovered by this celebrated navigator, after his paſſage through the Straits of Magellan.

According to the moſt ancient of theſe accounts (that of Hackluyt, publiſhed in his *collection of voyages by Engliſhmen* ;)* after Drake's ſquadron was out of the Straits of Magellan,

* The principal navigations, voyages, traffiques, and diſcoveries of the Engliſh nation, &c. London, 1598, 99, 1600; in fol. Vol. III, page 744.

and

and had paſſed into the South Sea, the 6th of September, 1578, his ſhips ſtood to the north-weſt, for three days, after which the wind blew from the north-eaſt with ſo much violence, that they could only make a weſt-ſouth-weſt courſe; they continued this courſe for the ſpace of ten or twelve days, not having been able to carry much canvaſs; the heavineſs of the gale then obliged them to furl all, and they lay to under bare poles till the 24th of September. The ſame day one of the ſhips of the fleet parted company, the wind, which became more moderate, allowed the others to carry a little ſail; they ſtood to the north eaſt ſeven days. They then diſcovered ſome iſlands, towards which they ſtood in order to come to an anchor; but the weather fruſtrated their purpoſe: the wind ſhifted to the north-weſt, and they made a weſt-ſouth-weſt courſe. The day following, the 1ſt of October, the weather being very bad, a ſecond ſhip parted from the fleet, and the admiral was left alone. Drake ran then to 57 deg. of latitude, where he anchored, in the harbour of an iſland, within gunſhot of the ſhore, in twenty fathom water.

He ſtaid there three or four days; and the wind having flown round to the ſouth, he weighed anchor, and ſtood to the northward, for the ſpace of two days. He then diſcovered a little iſland, inhabited, under which he lay to, in order to

ſend

ſend a boat off, which returned with a great many birds, ſeals, &c.

Another account publiſhed by Purchas, in his *Hackluytus poſthumus**, is thus expreſſed.

The 7th of September, 1578, Drake was overtaken by a tempeſt, which drove him from the weſt entrance of the Straits of Magellan, more than two hundred leagues in longitude, and carried him a degree to the ſouth of the ſtraits. Thence he ran to the 57th degree of ſouth latitude, where he met with a number of iſlands, among which he anchored, and which furniſhed him with very good water, and excellent herbs. He diſcovered another bay, where he found naked inhabitants, who uſed canoes, and held communications from one iſland to another; he made ſeveral exchanges with them.

At length, quitting this bay, and ſtanding to the northward, he, on the 3d of October†, met with three iſlands, of which one was remarkable for the prodigious quantity of birds he found there, and which ſurpaſs, ſays the narrator, whatever can be conceived, &c.

* *Hackluytus poſthumus*, or Purchas his Pilgrims, &c. London, 1625, in fol. Vol. I, page 50, of the Circum-navigations of the Globe.

† This date is evidently falſe: it is probable that it is a fault in the printing of the original; and that it is neceſſary to read the 30th, inſtead of the 3d.

The

The third relation is that of Francis Fletcher*, employed in the expedition, and aboard the ſame ſhip with Drake, in quality of chaplain. This is conformable but in a ſmall degree with the two former; but it is the account of an eye witneſs, of a man who ought not to be devoid of inſtruction; on the other hand we are ignorant as to the authority on which the others are founded; and as an ocular witneſs, Fletcher appeared to us to deſerve moſt belief: beſides, we find in his recital a concordance as to facts, a narrative regularly followed up by the events of Drake's voyage, which are not met with in the two other accounts.

According to Fletcher, in the beginning of September, 1578, Drake was near the opening of the Straits of Magellan, in the South Sea: arrived at this point, he ſaw nothing but iſlands, among which it was impoſſible for him to diſtinguiſh the real channel. He anchored at one of the iſlands on the ſouth ſide; he went himſelf, in a boat for diſcovery, and he ſatisfied himſelf, that the paſſage was open to the north. After having viſited this iſland, and converſed with the inhabitants, he put to ſea again, and on the 6th of September he was clear of the

* *The world encompaſſed by Sir Francis Drake, collected out of the Notes of Mr. Francis Fletcher, preacher in this employment, and others, &c.* London, Nic. Bourne, 1652, in 4to.

land.

land. He much regretted not having been able to land at the laſt of the points which he diſcovered in entering into the South Sea; he deſired to leave a teſtimony there of his having taken poſſeſſion of it; but he ſaw no place proper to diſembark at, and the wind did not allow him to wait.

The 7th he was overtaken by a violent tempeſt, which occaſioned him to be drifted to the ſouth, as far as 57 degrees of latitude, without his being able to diſcover any land: here one of the ſhips parted from the fleet.

The weather afterwards allowed him to ſtand to the northward, and, the 7th of October he anchored in a bay, a little to the north of this ſame point (which muſt be Cape Pillar,) where, the 7th of September, he regretted not being able to leave ſome proof that he had taken poſſeſſion of the ſpot.

A ſecond gale of wind drove him from this anchorage, where he left his anchors; at this time the rear admiral parted company in the gale, reentered the ſtraits, and getting again into the Atlantic Ocean, arrived in England the 2nd of June following: this circumſtance occaſioned him to give to the anchorage ground, which he quitted, the name of *Bay of the Separation of Friends*. Drake drifted, this ſecond time, as far as 55 degrees of latitude; and, in this parallel, he found himſelf,

himſelf, ſo ſays the account, among the iſlands ſituate to the ſouth of America, of which mention had been made as ſoon as he entered into the Great Sea, and which form, with the continent, the outlet of the ſtraits. He anchored at theſe iſlands, and got two days reſt: he filled water, and found herbs, the uſe of which was highly ſalutary to his crew.

A third gale forced him to ſea: it was impoſſible he could carry any ſail, and the coaſt, to leeward, preſented nothing but rocks and dangers.

Happily, at ſome leagues to the ſouthward of the former anchorage, he ſucceeded ſo far as to find another, ſtill among the ſame iſlands. It was here that he ſaw the natives of theſe places ſailing from one iſland to another, with their wives and children; and he made ſome exchanges by way of traffic with them.

After three days, a fourth gale ſurprized him at anchor, and forced him to cut the cable. He gave himſelf up to the ſea again, until at laſt, ſays Fletcher, the 28th of October, "we reached the "moſt ſouthern parts of theſe iſlands, and thus "diſcovered the extremity of America, the near-"eſt to the pole." This extremity, adds he, is ſituate near to the 56th degree of latitude, (it is Cape Horn): beyond it there exiſts no continent, no iſland; here the two ſeas meet.

Drake gave all the iſlands which he had ſeen after his paſſage through the ſtraits, even to the moſt ſoutherly, the name of *Elizabethides Iſlands.*

Fletcher obſerves, that, at this laſt iſland, there were only two hours night; and as the ſun was then ſeven degrees from the tropic of Capricorn, it may be concluded, ſays he, that the day that this luminary paſſes the tropical circle, there ought to be no night. This concluſion proves, that Fletcher was very ignorant of aſtronomy: all the world knows, that, to have no night, the day of the ſolſtice, it is neceſſary to be ſituate under the polar circle, that is to ſay, at 66° 32′; and Fletcher has juſt ſaid, that he was only at 56 degrees of latitude. It is notwithſtanding from this error, that ſome geographers have been led, to place the land, thus diſcovered by Drake, under the antarctic circle.

Drake, after being two days at this laſt anchorage, made ſail directly to the north-weſt; and, the following day, he met with two iſlands very abundant in birds: he ſtopped there a little time; and the 1ſt of November he purſued his courſe to the north-weſt, &c.

After having examined, with attention, the facts which Fletcher's narrative furniſhes, it is impoſſible to do otherwiſe than conclude, that the land, which geographers have called *Drake's Land*, is only the weſterly part of the *Terra*

*del Fuego;* that, the 28th of October, Drake arrived at the iſlands of Cape Horn; and that, the next day, ſtanding again to the north-weſt, he met with ſome of thoſe numberleſs iſlands, which compoſe the archipelago of the *Terra del Fuego.*

Although it may thus appear to be proved, that the pretended Drake's Land does not exiſt, there has been an unwillingneſs, notwithſtanding, to efface it from the charts: almoſt all the geographers, except thoſe who have carried it either to 60 degrees of latitude, or under the polar circle, have placed it about a hundred and eighty leagues to the weſt-ſouth-weſt of Cape Horn, or 10 degrees to the weſt of the longitude of the mouth of the ſtrait, and in the 57th deg. of ſouth latitude.

It is not to be doubted, but that, if the weather ſhould favour M. De La Pérouſe, he will one day furniſh a verification, which will be uſeful in deſtroying a geographic error without its recurring again. Cook, in 1769, and Furneaux, in 1775, followed tracks, which, if this Drake's Land exiſted at the place which geographers have aſſigned it, would have put it in the power of theſe navigators, if not of ſeeing it, at leaſt of obſerving ſome ſign, ſome indication of land; and it is well known, that neither one nor the other perceived any.

24. *Terre de Theodore Gerard.* Theodore Gerard, one of the firſt Dutch navigators, who have made a voyage in the Great Ocean, was carried by a ſtorm, in 1599, as far as 64 degrees of ſouth latitude, where he diſcovered a mountainous land, covered with ſnow, the aſpect of which appeared to him the ſame as that of Norway*: it is placed 16 degrees to the weſt of the meridian of Cape Horn.

25. Land ſaid to have been ſeen by the Spaniards, in 1714.

To prove the exiſtence, and pretty nearly fix the poſition of this land, the annexed account has been followed, taken from a "Mémoire pour la France, ſervant à la Découverte des Terres Auſtrales," by a ſeaman of Saint Malo, named Bernard De La Harpe †.

"In 1714, the captain of a Spaniſh brigan-
"tine left Callao to go to the iſland of Chiloe,
"and being in 38 degrees of ſouth latitude, and
"at five hundred and fifty leagues (Spaniſh, 17½
"to a degree) to the weſt of Chili, diſcovered
"an elevated land that he coaſted a whole day;

* *Dalrymple's Hiſtorical Collection of Voyages, and Diſcoveries.* London, 1770, in 4to, vol. I, page 94.

† Printed at Rennes, chez Vatar, 15 pages in 4to. See alſo the *Mémoire de Pingré, ſur le choix et l'etat de lieux pour le paſſage de Venus du 3 Juin* 1769; Paris, Cavelier, 1767, 4to.

" he judged by the fires he obſerved during the " night, that it muſt be inhabited. Contrary " winds having obliged him to put in at *Concep-* " *tion*, he found there a ſhip called the *Fran-* " *çais*, commanded by M. Du Freſne-Marion, " who affirms he has ſeen the journal of the Spa- " niſh captain, and has read the fact which has " juſt been related."

Theſe iſlands are placed on the chart of the Great South Sea, in 38 degrees of ſouth latitude, and between 108 and 109 degrees of weſt longitude. This poſition agrees with the opinion of captain Cook. See his ſecond voyage, vol. II, page 274, of the original.

Theſe iſlands call to recollection the diſcovery attributed to Juan Fernandez, a Spaniſh pilot, under the name of *Terres De Juan Fernandez*, which the charts lay down to the weſt of Chili. This navigator died without having pointed out the latitude and longitude of his diſcovery: it is only known, that, about the year 1576, he ran 40 deg. to the weſt of the coaſts of Chili, having ſteered weſt, and ſouth-weſt, and after a month and half of navigation, he reached a land, which he deſcribed as being a vaſt continent. This diſtance of 40 degrees of longitude, to the weſt of the coaſts of Chili, is not far removed from that, where the land ſaid to have been diſcovered by the Spaniards, in 1714,

is placed. See, for the land ſeen by Juan Fernandez, Dalrymple's Hiſtorical Collection of Voyages and Diſcoveries, vol. I, page 53; and the Voyages tranſlated from Dalrymple by M. De Frêville, page 125.

26. Iſle De Pâque, or Eaſter Iſland. This iſland, diſcovered in 1722, by Roggewein, a Dutchman, was ſeen and viſited, in 1774, by captain Cook, who determined the poſition of it. See his ſecond voyage, vol. I, page 276, of the original.

The Spaniards touched at Eaſter Iſland, the 16th of November, 1770, and called it *San Carlos*, or Saint Charles. There is added to the collection of charts, with which M. De La Pérouſe is furniſhed, the plan which the Spaniſh ſhips had taken of this iſland, round which their boats made a tour. They place it in 27° 6′ ſouth latitude, and 268° 19′ from the meridian of Teneriffe, or 110° 41′ weſt of Paris; that is to ſay, they have carried it too far to the eaſt, by about one degree and half.

The variation of the compaſs there, according to the Spaniards, in 1770, was 2° 30′ eaſt.

27. Iſlands ſaid to have been ſeen by the Spaniards, in 1773, in 32 degrees of ſouth latitude, and 130 degrees weſt of Paris.

This poſition is the ſame which is given from the account of M. Croizet, captain of a French

ſhip; and is that which captain Cook had adopted. See his ſecond voyage, vol. II, page 267, of the original.

It appears, however, that this poſition may be diſputed; and upon the following grounds:

It was at their return from Otaheite, in 1773, that the Spaniſh ſhips diſcovered the iſlands ſituate in 32 degrees of latitude; and it is highly probable, that the longitude they aſſigned to theſe iſlands, (with which M. Croizet had been acquainted) is affected with the ſame error they made as to the longitude they aſſigned to Otaheite. By the extract of their voyage to this iſland, communicated to one of M. Surville's officers, during their ſtay at Lima, it may be ſeen, that the Spaniards have placed the iſland of Otaheite, which they called *Iſla D'Amat**, in 17° 29′ latitude, and in 233° 32′ of longitude eaſt from the meridian of Teneriffe, which anſwers to 145° 28′ of longitude weſt of Paris. Now the longitude of this iſland has been determined, by the numerous obſervations of captain Cook and the Engliſh aſtronomers, at 151° 52′ weſt of Paris: the poſition given by the Spaniards is thus an error of 6° 24′ towards the eaſt.

* From the name of the Vice-roy of Peru, who ordered the expedition.

If the longitude of the iſlands diſcovered, at 32 degrees of latitude, be affected by the ſame miſtake, they ought to be laid down in 136° 24′ weſt of Paris, inſtead of 130 degrees, very nearly under the ſame meridian that Pitcairn Iſland is placed.

It is obſervable, nevertheleſs, that captain Cook has followed this meridian in his ſecond voyage, without perceiving any thing; he perceived nothing in his firſt voyage in croſſing the parallels of 128 and 129 degrees of longitude: but there is ſtill between theſe two courſes a ſpace of eight degrees, from eaſt to weſt, not ſailed through, in which it is to be hoped the iſlands diſcovered by the Spaniards, in 1773, in 32 degrees of latitude, may be again ſeen.

A general remark may be made, that all the ancient diſcoveries of the Spaniards, and which there have been opportunities to verify, have been found ſituate much farther to the weſt than they had repreſented them to be; and up to the preſent time their modern diſcoveries in the Great Ocean appear affected by an error on the ſame ſide.

Captain Cook being in the latitude of theſe iſlands, and very near under the meridian they are wont to be placed on after the correction above pointed out, that is to ſay, 32° 30′ latitude, and 133° 40′ weſt of the meridian of

Greenwich, or 136° west of Paris, makes an observation deserving mention.

" This day, says he, (22d July, 1773,) was " remarkable, by our not seeing a single bird. " Not one had passed since we left the land, " (New Zealand) without seeing some of the following birds, viz. albatrosses, sheerwaters, pintadoes, blue petrels, and Port Egmont hens. " But these frequent every part of the Southern " Ocean in the higher latitudes; not a bird, nor " any other thing was seen, that could induce us " to think that we had ever been in the neighbourhood of any land." (Cook's second voyage, vol. I, page 135, of the original.)

This observation might induce a belief, that there is but little hope to find the islands or land seen by the Spaniards in 32 degrees of latitude, in looking for them in the longitude of 136 degrees west of Paris, since captain Cook being under this meridian, and nearly in the supposed parallel of these islands, saw not a bird, not a sign of land. There is no foundation, however, for calling their existence in question; and after having given the reasons which leave a great uncertainty upon their true position, there remains only to rely on M. De La Pérouse for taking these reasons into consideration, in the research he will make after them. It must be observed, in concluding this article, that it is very probable

they

they are more weſtward than 136° 0′ weſt of Paris, ſince the Spaniards fell in with them in coming from Otaheite to Peru: and it would have been neceſſary, that they ſhould make more than a good ſouth-eaſt courſe, with the trade winds ſouth of the line, in order that they ſhould run down 22° 0′ of eaſt longitude, while making only 14½ degrees of latitude.

## GREAT EQUATORIAL OCEAN.

28. Iſlands of the South Sea, or of the Great Equatorial Ocean, between the 26th, and the 10th degree of ſouth latitude, and the ſpace compriſed between the 130th degree of longitude, weſt, and the 170th eaſt of Paris.

For all the iſlands contained within theſe limits there is occaſion only to refer M. De La Pérouſe to the accounts of the voyages of Byron, Bougainville, Carteret, Wallis, Furneaux, and Cook; he will find in them all the geographical, phyſical, and hiſtorical details, which may be uſeful to him in ſearching for ſome of theſe iſlands, and in the ſtay that he may be diſpoſed to make there. With regard to the anciently diſcovered iſlands in the ſame ſeas, by Mendana, in 1567, and 1595, Quiros and Torrez, in 1606, Le Maire and Schouten, in 1616, Abel Taſman, in 1642, and Roggewein, in 1722, they

they have all been inſerted in the chart of the Great Equatorial Ocean, which has been delivered to M. De La Pérouſe for his voyage, conformably to the indications which may be drawn from the original narratives publiſhed concerning the diſcoveries of theſe navigators. The poſitions given to them on the chart differ much, however, from thoſe which had been aſſigned from thoſe very narratives; but the proved identity of ſome of theſe iſlands with thoſe which have been recognized by modern navigators, having contributed to rectify many of the ancient determinations, uſe has been made of ſome of theſe rectified points, as foundations to correct one after another, and, at leaſt in part, the poſitions of ſome other anciently diſcovered iſlands, which have not yet been again found: there are however, many reſpecting which great uncertainty remains, becauſe the journals of ancient navigators are ſo devoid of obſervations and of dates, ſo ſterile in nautical facts, that there can often be drawn from them only unſatisfactory conjectures; their ſilence about the moſt intereſting circumſtances of the voyage ſometimes deprives the geographer of all means of combination, of all compariſon with other journals, whence lights might be drawn as a guidance through the obſcurity.

The

The courſes indicated, and the diſcoveries made by theſe ancient navigators, will here be ſummarily traced, as far as they can be deduced from the relations which have appeared to merit the moſt confidence. It is much to be deſired, that chance and happy combinations may enable his Majeſty's ſhips to meet ſome of the iſlands thus loſt to navigation; which, while offering them, in the courſe of their diſcoveries, reſources in the neceſſaries of life and refreſhments, may alſo contribute to the extenſion of human knowledge.

1. *The Voyage of Magellan**, (1519.) From the ſtrait to which this navigator gave his name, he ſtood weſt-north-weſt as far as the equator, which he croſſed at 9858 miles from the ſtrait, and near the 170th degree of longitude eaſt from Paris; in this long run he diſcovered only two little deſert iſlands, at the diſtance of 200 leagues from each other, viz. San Pedro, in 18 or 19 degrees of ſouth latitude; de los Tiburons, in 14 or 15 degrees of ſouth latitude.

Theſe iſlands which Magellan called by a general name *Unhappy Iſlands*, are ſtill unknown; and they are not marked upon the chart of the Great Equatorial

* See the voyage and navigation from the Molucca Iſlands, by the Spaniards, deſcribed by Anthony Pigapheta;——Ramuſio's Collection,——*Decadas da Aſia*,—*de Barros e Couto*;——*Navigations aux terres auſtrales*, *by De Broſſes*;—Dalrymple's Hiſtorical Collection, and others.

Ocean, becauſe their poſition is not pointed out in a manner ſufficiently preciſe. Of all the iſlands diſcovered ſince Magellan, there is only Cook's *Savage Iſland*, and Bougainville's *Enfant Perdu*, which can repreſent to us the two *Unhappy Iſlands:* they are 200 leagues from each other, like theſe, and nearly in their latitude; Savage Iſland is in 19° 1′ latitude, and 172° 30′ weſt longitude from the meridian of Paris: *L'Enfant Perdu*, in 14° 6′ of latitude, and 179° 2′ eaſt longitude.

2. *The Voyage of Mendana**, (1567.) From Callao, a port of Lima, Mendana ſtood to the weſtward, and made a run of 1450 leagues, (Spaniſh of 17½ to a degree) without finding land. He diſcovered then:

Jeſus Iſland, a ſmall one, inhabited, latitude ſouth, 6° 15′.

*Candlemas Shoals*, a reef of rocks with many little iſlands; the middle in 6° 15′ of ſouth latitude, and 170 leagues from Jeſus Iſland.

Iſabella Iſland, 95 leagues in length, and 20 in breadth, of which the ſouth-eaſt point is in 9° 0′ of latitude, and the north-weſt in 7° 30′. They anchored in a harbour which is on the north

* *Geographia Indiana* de Herrera.——*Hiſtoria de las Indias*, Lopes Vas.——*Navigations aux terres auſtrales*, by De Broſſes.——Dalrymple's Hiſtorical Collection.—*Découvertes dans la mer du Sud, etc.*

ſide,

ſide, and a brigantine, which was ſent thence on diſcovery, found the iſlands following:

Malaita, thus called by the Indians, a large iſland, fourteen leagues eaſtward of a great bay, in 8 degrees of latitude.

La Galera, a little iſland of five leagues circumference, ſurrounded by reefs.

Buona-Viſta, twelve leagues in circumference, in 9° 30′ of latitude.

La Florida, twenty-five leagues in circumference, in 9° 30′ of latitude.

San Dimas, Saint Germain, La Guadelupa, } forming a chain which extends eaſt and weſt with Florida.

Seſarga, in 9° 30′ of latitude, a round iſland, of eight leagues circumference, with a volcano in the middle.

Guadalcanar, a very extenſive land, with a good harbour.

Saint George, near Iſabella Iſland, from which it is ſeparated only by a channel; a good harbour, and pearls were found there.

Saint Chriſtopher, a narrow and mountainous iſland, with a good harbour, in 11 degrees of latitude.

Saint Catherine, Saint Anne, } two little iſlands to the eaſt of St. Chriſtopher, three leagues diſtant from each other.

There

There is a good harbour on the eaſtern ſhore of the latter.

Beſide theſe iſlands, cited in the relation of Chriſtopher Suarez De Figueroa, many others are to be found, named in the deſcriptions of Herrera, and De Bry, and which may be ſeen alſo upon ancient charts; ſuch as Saint Nicolas, Arrecifes, Saint Mark, Saint Jerome, &c.

All theſe iſlands, ſince known under the name of *Solomon's Iſlands*, appear to be the *Terres Des Arſacides*, diſcovered by Surville, commanding the ſhip Saint-Jean-Baptiſte, in 1769.

3d. *Mendana's ſecond voyage**, (anno 1596.) From Payta, on the coaſt of Peru, he ſteered weſt, as far as 1000 leagues from the coaſt, without ſeeing land. Diſcovery was then made, as follows:

The Marqueſas of Mendoca, between nine and ten degrees of ſouth latitude, four iſlands which were called *La Magdalena*, *San Pedro*, *La Dominica*, and *Santa Chriſtina*; in the weſtern part of this laſt was found a good harbour, which was called *Madre de Dios*. (They have been again found in 1774 by capt. Cook.)

The iſlands of San Bernardo in 10° 45′ latitude, and 1400 leagues from Lima, four little low iſlands,

* *Navigations aux terres auſtrales.*——Hiſtorical Collection. ——*Découvertes dans le Mer du Sud.*

ſandy,

ſandy, and defended by a reef of rocks. The circuit round all of them may be eight leagues. (It appears that theſe are the ſame iſlands which were ſeen in 1765 by commodore Byron, who denominated them *Iſlands of Danger*; and it is after the reckoning of his courſe that they have been laid down in the chart in 10° 51′ of latitude, and 169° 30′ of weſt longitude from Paris.)

La Solitaria, in 10° 40′ of latitude, and 1535 leagues from Lima, a little round iſland, a league in circuit.—(It has not been ſeen ſince, but its poſition, deduced from its diſtance from the iſlands of San Bernardo and Santa Cruz, appears ſufficiently exact; it is in 10° 40′ latitude, and 178° 20′ weſt longitude.)

The iſland of Santa Cruz, a large iſland, with a good harbour for anchoring, in 10° 20′ of latitude, and at 1850 leagues from Lima. It was again ſeen in 1768 by captain Carteret, who called it *Egmont Iſland*, making a part of Queen Charlotte's Iſlands; and it is according to the track of this navigator, that it has been laid down in the chart in eleven degrees of latitude, and 161° 35′ of eaſt longitude.

4th. *Voyage of Quiros and Torrez*, (anno 1606.) From Callao, they ſteered ſouth-weſt and weſt as far as a thouſand leagues from the coaſt of Peru, without ſeeing land. They diſcovered afterwards as follow:

*Encar-*

*Encarnacion*, in 25° of ſouth latitude, and at a thouſand leagues from Peru, a little iſland four leagues round, and ſo low, that it is ſcarcely perceptible above the water.

*San Juan Baptiſta*, an iſland twelve leagues in circumference, very high land, two days and a half ſail from Encarnacion Iſland, to the weſtward.

*San Elmo*, ſix days ſail from San Juan Baptiſta; an iſland thirty leagues in circumference, ſurrounded by a reef of coral; the middle of the iſland is covered by the ſea.

*Las Quatro Coronas*. Four inacceſſible iſlands, a day's ſail from San Elmo.

*San Miguél*, at four leagues diſtance from Quatro Coronas, to the weſt-north-weſt; it is ten leagues in circumference, and lies north and ſouth.

*La Converſion de San Páulo*, to the weſt-north-weſt of San Miguél, half a day's ſail.

*La Dezana*, four days ſail from Converſion de San Páulo; about the latitude of 18° 40′

*La Sagataria*, one day's ſail from Dezana; a large iſland, the north-weſt point of which is in 17° 40′ of latitude. Information was gained at this iſland, that there was other land to the weſtward.

There is great reaſon to believe, that the Sagataria of Quiros is the ſame iſland as Otaheite:

the latitude, the bearing of the coaſt, that was run down the land ſpoken of, to the weſt of the Sagataria, perfectly agree with the iſland of Otaheite. La Dezana, of Quiros, will, in conſequence, be the iſland of Oſnaburg of Wallis, the Boudoir of Bougainville, the Iſland Maitea of Cook, eaſt-ſouth-eaſt* of Otaheite.

For the other iſlands which precede La Dezana, it appears, that they have not yet been known. Cook thinks that Pitcairn Iſland, diſcovered by Carteret, is the Iſland of San Juan Baptiſta, of Quiros; but the difference of ſize does not permit the adoption of that opinion. San Juan Baptiſta is twelve leagues in circumference, and Pitcairn is only three: beſides, the diſtance of a thouſand leagues, from the Encar-

* It may be ſeen by theſe diſcoveries of Quiros, that there muſt be a chain of conſiderable iſlands ſouth-ſouth-eaſt, and ſouth-eaſt of Otaheite, which may ſtretch much further to the ſouthward, even to the 32d degree, where we know the Spaniards ſaw iſlands in 1773. If very ancient charts might be cited at this time, and regard paid to them, a belief might be entertained that the continent which they repreſent to have been diſcovered by Fernand Gallego, and extending itſelf to the weſt-north-weſt, and north-weſt from Cape Horn, to New Guinea; is nothing elſe than this chain of iſlands, which extend further in the ſouth-eaſt, than the point where the diſcoveries of Quiros commenced: it would be found further weſt, than the firſt track of captain Cook, in a ſpace of ſea which has not been viſited in theſe latter times.

nacion of Quiros to the coaſts of Peru, would place this iſland to the weſt of Pitcairn, by ſome degrees, and ſo much more the Iſland of San Juan Baptiſta; which is two days ſail to the weſt of Encarnacion, as before ſhown. It is to be obſerved, that the Marqueſas of Mendoca, which are placed at 6° 0′ to the weſt of Pitcairn, were pointed out by Mendana as at 1000 leagues from the coaſt of Peru.

According to Dalrymple (*Hiſtorical Collection*, vol. I, page 5,) the Iſland of San Juan Baptiſta, would be in 26° 0′ of latitude, and that of San Elmo, in 28° 0′. However it may be, it is in the ſouth-eaſt of Otaheite, that the ancient iſlands of Quiros muſt be looked for.

Taking his departure from Sagataria, and continuing his courſe to the weſt, Quiros diſcovered the following iſlands.

*La Fugitiva*, two days, or two days and half ſail from Sagataria. It was perceived in the north-eaſt; but being too far to leeward, they could not land there.

*El Peregrine*, one day's ſail from La Fugitiva. Here alſo they did not land on account of the wind.

(It is not very eaſy to know where to place theſe two iſlands, unleſs they are ſuppoſed to be ſome of the Society Iſlands, or others yet unknown, north-eaſt of thoſe).

San

San Bernardo, fix days ſail from the Iſland of Peregrino, and in 10° 30′ ſouth latitude; a level iſland, ſix leagues in circumference, and of which a ſalt water lake, or the ſea, occupies the centre. (This iſland muſt not be confounded with thoſe of San Bernardo, diſcovered by Mendana, and which were four in number. Moreover, Quiros, in a memorial preſented to Philip the Third, King of Spain, makes no mention of the Iſland of San Bernardo, and he cites *Nueſtra Señóra Del Socorro*, as the name of the Iſland which immediately follows Peregrino: it appeared uninhabitable).

*Gente Hermoſa*, or Handſome Nation, ſeven days ſail from the Iſland of San Bernardo, and in the ſame latitude as Mendana's Iſland of Santa Cruz, viz. in 11° 0′ ſouth latitude: ſix leagues in circumference, on which the inhabitants were the faireſt and handſomeſt to be ſeen in thoſe ſeas; the women in particular were of rare beauty, and clothed in a light covering. (In the above cited memorial of Quiros, the name of Gente Hermoſa is not to be found, but inſtead of it, that of *Monterey*, who was viceroy of Mexico).

*Taumago*, at thirty-three days ſail from the Iſland of the Handſome Nation, and almoſt in the parallel of the Iſland of Santa Cruz: it is a conſiderably large iſland, where were found wood,

water, and refreſhments, with very peaceable inhabitants. (There it was learnt, as well as from an Indian, who was taken from the place and carried to Mexico, that there were many iſlands ſurrounding it, ſuch as Chicayana, Guaytopo, Mecarailay, Fonofono, Pilen, Naupau, &c. which have not been ſeen ſince by any navigator. It is remarked that, in the run from the Iſland of the Handſome Nation to Taumago, there were almoſt always preſages of land, ſuch as a great quantity of pumice ſtone, and numerous flocks of birds).

*Tucopia*, ſix days ſail from Taumago, and in 12° 0′ of ſouth latitude: in coaſting along this iſland, where they could not go aſhore, it was learnt from the inhabitants, that there was much land to the ſouth, ſail was made accordingly to that quarter to look for it.

*Nueſtra Señora De La Luz*, a high land, at 14° 30′ ſouth latitude. (This iſland appears to be the peak of *L'Etoile*, to the north of the great *Cyclades* of M. De Bougainville).

*Tierra Del Eſpiritu Santo*, and Harbour of *La Vera Cruz*. This land, which was the extremity of the voyage of Quiros, has been ſince found by M. De Bougainville, who called it *Les Grandes Cyclades*, and afterwards by captain Cook, who named it the *New Hebrides*. This laſt has preſerved in the north, the name of *Tierra*

*Del*

*Del Eſpiritu Santo.* On leaving this land, Quiros made ſail for New Spain, or Mexico, where he arrived without making any other intereſting diſcoveries: but Torrez, who was ſeparated from the fleet, ſtood to the weſtward, and paſſed between New Holland and New Guinea, in the ſame manner as captain Cook has ſince done in the Endeavour.

5th. *Voyage of Le Maire and Schouten** (anno 1616). From the Iſle of Juan Fernandez, where theſe navigators went on ſhore, after having diſcovered the Straits of Le Maire, and been the firſt to double Cape Horn, they ſtood to the weſt-north-weſt 925 leagues from the coaſt of Peru, without ſeeing land; then were diſcovered as follows:

*Hond Eiland*, or Iſland of Dogs, in 15° 12′ ſouth latitude, and at 925 Dutch leagues (15 to a degree) from the coaſt of Peru, a little iſland about three leagues in circumference, but ſo flat that it is in part overflowed at high water.

*Sondre-grond*, or Bottomleſs Iſland, in 15° 15′ of latitude, and at 100 leagues weſt of the Iſland of Dogs, inhabited, and of 20 leagues circumference. According to the relation of Le Maire, its latitude would be 14° 35′, inſtead of 15° 15′, which the relation of Schouten gives.

* *Diarium vel Deſcriptio Itineris facti à Guill. Schoutenio.—Miroir oost et weſt-indical, etc.—Speculum orientalis occidentaliſque Navigat. etc.—Navigations aux Terres Auſtrales.*—Hiſtorical Collection, &c.—*Découvertes dans la Mer du Sud, etc.*

*Waterland*, in latitude 14° 46′, and 15 leagues from Bottomleſs Iſland. Water was found there, and a ſpecies of creſſes, but it did not appear to be inhabited.

*Ulyegen*, or the Iſland of Flies, in 15° 30′ of latitude, and 20 leagues from Waterland; a low iſland, inhabited, where the viſitors were aſſailed by a prodigious number of flies.

*The Iſland of Cocoas*, in latitude 16° 10′ ſouth, twenty-three days ſail from the Iſland of Flies; a high iſland, appearing like a ſolitary mountain, well peopled, and covered with cocoa nut trees.

*The Iſland of Traitors*, in 16° 5′ of latitude, and two leagues to the ſouthward of the Iſland of Cocoas; the land flat and inhabited. Theſe laſt two iſlands were ſeen again in 1767, by captain Wallis, who gave the name of Boſcawen to the Iſland of Cocoas, and that of Keppel to the Iſland of Traitors; he found the firſt in 15° 50′ ſouth latitude, and the ſecond in 15° 55′, which makes a difference only of 15 minutes from the latitude given by Le Maire and Schouten.

It is remarked, that, on the evening preceding their arrival at theſe iſlands, Le Maire and Schouten met with a canoe filled with Indians, ſailing to the ſouthward, a circumſtance which indicates, that there are other iſlands in that direction.

*Goede-Hoop*, or the Iſland of Good Hope, in the ſame parallel as the Iſland of Cocoas, and thirty leagues

leagues to the weſtward: an inhabited iſland, about two leagues in length from north to ſouth.

*Hoorn Eilands*, in latitude 14° 56′, and about 1550 leagues from the coaſt of Peru; two iſlands ſituate within gun ſhot of each other, and inhabited; with a good haven at the ſouthern extremity of the larger one: every ſort of refreſhment was found there.

At a hundred and fifty-five leagues from the Hoorn Iſlands, thirteen days after having quitted them, and in 4 degrees of ſouth latitude, ſigns of land were obſerved. Then

Four ſmall iſlands, ſurrounded by ſand banks and ſhoals, and inhabited, in 4° 30′, and five days before making that part of New Guinea which is now called New Ireland.

Twelve or thirteen iſlands occupying about half a league from ſouth-eaſt to north-weſt, three days before reaching New Guinea.

Three low iſlands, covered with trees, and named in conſequence *Groen Eilands*, (Green Iſlands) one day before reaching New Guinea.

Sight of the Iſland of St. John.

*New Guinea*, or eaſtern coaſt of New Ireland, diſtant, by dead reckoning, 1840 Dutch leagues from the coaſt of Peru.

N. B. Of all the iſlands ſeen in this voyage, none have been ſince found out, except thoſe of Cocoas and Traitors, which have been viſited by

Wallis; they are laid down upon the chart from the journal of this navigator, and the diſtance of all the others regulated from that of theſe two iſlands.

6th. *Voyage of Abel Taſman*,* (anno 1642). From Batavia, Taſman touched at the Iſle of France, then called Mauritius: thence ſteering to the ſouthward, as far as 40 or 41 degrees of ſouth latitude, and afterwards to the eaſtward, as far as the 163d degree of longitude from the meridian of Teneriffe, or 144° eaſt of the meridian of Paris, the meridian of Teneriffe being 19° 0′ weſt of the former, he diſcovered as follows:

The land which was called *Van Diemen's*, in 42° 25′ ſouth latitude and 163° 0′ of longitude from the meridian of Teneriffe. He anchored in a bay which received the name of Frederic Henry, in 43° 10′ of latitude, and 167° 55′ of longitude.

Another high and mountainous land, which was called New Zealand, in 42° 10′ latitude, and 188° 28′ longitude, he anchored in a great bay, ſituate in 40° 49′ latitude, and 191° 41′ longitude: the conduct of the natives of the country gave occaſion to call it Aſſaſſins Bay.

A groupe of iſlands, called the Three Kings, in 34° 12′ ſouth latitude, and 190° 40′ longitude.

* *Oud en nieuw oost Indien, etc. door F. Valentyn*—*Navigations aux Terres Auſtrales.*—Hiſtorical Collection.—*Découvertes dans la Mer du Sud.*

They

They were found at the end and to the weſtward of a length of coaſt, which was run down from Aſſaſſins Bay.

*The Iſland of Pylſtaarts*, or Wild Ducks, in latitude 22° 35′, and longitude 204° 15′; a high and ſteep iſland, of two or three leagues in circuit.

*Amſterdam Iſland*, in latitude 21° 20′, and longitude 225° 9′; a low and flat iſland, the inhabitants of which were hoſpitable and benevolent. (This is the Tongataboo Iſland of captain Cook, one of the Friendly Iſles).

*Iſland of Middleburg*, a high and inhabited iſland to the S. E. of Amſterdam. It is the Eooa of Cook.

*Uitardam*, *Namokoki*, and *Rotterdam*, inhabited and cultivated iſlands, in 20° 15′ of latitude, and 206° 19′ of longitude. (The natives give to the latter iſland the name of *Annamooka*, which captain Cook has retained).

*Prince William's Iſlands*, and the Shallows of Heemſkirck, in 17° 19′ of latitude, and 201° 35′ of longitude: theſe are eighteen or twenty little iſlands ſurrounded by ſhoals and reefs of rocks.

*The Iſlands of Ontong Java*, in latitude 5° 2′, and, by dead reckoning, 90 Dutch leagues from the part of New Guinea called at preſent new Ireland: it is a cluſter of twenty-two little iſlands.

*The Iſlands of Marck*. Three days ſail from the pre-

preceding. Another cluſter of fourteen or fifteen little inhabited iſles, and which had before been ſeen by Le Maire and Schouten.

*The Green Iſlands.* Four days ſail from the preceding, and one day's ſail before arriving at St. John's Iſland

*The Iſland of St. John.*

*St. Mary's Cape.* On the eaſtern coaſt of New Guinea (now New Ireland) in latitude 4° 30′, and longitude 171°; thence ſtanding to the north-weſt along the coaſt of New Ireland, paſſing the Iſlands of Anthony Cave, of Garet Dennis, &c. then to the ſouthward and weſtward along the northern coaſt of New Guinea.

All the lands and all the iſlands ſeen in this voyage have been ſeen again in our times, and found in the poſition which Taſman had aſſigned them; they are laid down in the chart according to the tracks and obſervations of modern navitors.

7. *Voyage of Roggewein** (anno 1722). From the Iſland of Juan Fernandez, Roggewein ſailed to the weſt-north-weſt, with the intention of making *Davis's Land*, which he did not find. He diſcovered

*Eaſter Iſland.* In 27° 4′ of ſouth latitude, and 265° 42′ of eaſt longitude from the meridan of

* *Expedition de trois Vaiſſeaux*, &c.—*Vies des gouverneurs de Batavia*—*Navigations aux Terres Auſtrales.*—*Hiſtorical Collection.*—*Découvertes dans la Mer du Sud.*

Teneriffe,

Teneriffe, according to the author of *Vies des Gouverneurs de Batavia*; which anſwers to long. 113° 18′ weſt of the meridian of Paris; an inhabited iſland, 16 Dutch leagues in circumference, and remarkable for the ſtatues or coloſſal figures raiſed in great numbers upon the coaſt. (It was viſited by captain Cook, who found it in latitude 27° 5′, and longitude 112° 6′ weſt of Paris; and who called it Eaſter Iſland. It was alſo ſeen, in 1770, by the Spaniards, who lay it down in latitude 27° 6′, and longitude 268° 19′ from the meridian of Teneriffe, which anſwers to 110° 41′ longitude weſt of Paris; theſe laſt navigators have given it the name of *San Carlos)*.

*Carls-hof*, or *Charles's Court*, in 15° 45′ ſouth latitude, and after a run of eight hundred leagues from Eaſter Iſland. According to the French relation of this voyage, it is a little flat iſland with a kind of lake in the middle. Roggewein believed it was the *Iſland of Dogs* of Le Maire and Schouten, and the Dutch account aſſigns neither latitude nor longitude to it: it has been laid down, in the chart, relatively to its diſtance from the *Miſchievous Iſlands*, which are about twelve leagues to the weſtward, and the poſition of which is now known.

*Miſchievous Iſlands*, in 14° 41′ ſouth latitude, and 12 Dutch leagues to the weſtward of Charlshof; theſe are four low and inhabited iſlands, which

which are from four to ten leagues in circumference. (Roggewein loſt a veſſel there, a circumſtance which occaſioned him to give the title of Miſchievous to one of theſe iſlands: two others were called the Two Brothers, and another the Sifter: five men of the crew remained there, who deſerted and were left behind. There is reaſon to believe, that theſe iſlands are the ſame as thoſe of Palliſer, diſcovered by Cook in his ſecond voyage, and the Engliſh navigator is of the ſame opinion. See Cook's ſecond voyage, vol. I, page 315, and following).

*Aurora Iſland*, eight leagues weſt of the *Miſchievous Iſlands;* a little iſland of four leagues in circumference, which has not yet been recognized.

*Veſper Iſland*, a low iſland, twelve leagues in circumference, diſcovered the ſame day as Aurora Iſland, and which is equally unknown at preſent.

*The Labyrinth*, a group of iſlands, to the number of ſix, of a charming appearance, which are together of about thirty leagues extent; they are twenty-five leagues to the weſtward of Miſchievous. The Dutch narrative of the voyage makes no mention of the Labyrinth, but an inacceſſible iſland, which it lays down in 15° 17′ ſouth latitude. There is reaſon to believe, that theſe are the iſlands ſeen ſince by commodore Byron, and which he has named Prince of Wales's Iſlands).

*Recreation*,

*Recreation*, in 15° 47′ ſouth latitude, according to the Dutch account, or 16° 0′ according to the French account; an inhabited iſland, twelve leagues in circumference, high above the ſea, and covered with great trees: refreſhments were found there. (It is laid down, in the chart, in longitude 155° 20′ weſt of Paris, by taking the medium of the differences of longitude between this iſland, Eaſter Iſland, and New Britain, or New Ireland, ſuch as reſult from the chart which accompanies the Dutch edition of this voyage. This iſland has not yet been ſeen again).

*Bauman's Iſlands*, in 15° 0′ ſouth latitude, according to the Dutch chart above mentioned, and 12° 0′ according to the French: theſe are numerous iſlands of ten, fifteen, and twenty leagues in circumference, and have excellent anchorages, and mild pacific inhabitants. (They are laid down, in the chart, in 15° of latitude, conformably to the Dutch chart, and nearly in longitude 173° weſt of Paris, from the difference of longitude that the ſame Dutch chart gives between theſe iſlands and New Britain).

*Solitary Iſland*, called Single Iſland in the Engliſh charts, in latitude 13° 41′ according to the Dutch account, and a day and a half's ſail to the weſt from Bauman's Iſlands, or about thirty leagues. (It appears like two iſlands, and it might be conjectured to be the Iſlands of Cocoas and

Traitors of Le Maire and Schouten. But the difference of latitude forbids the adopting this opinion).

*Tienhoven* and *Groningen*, two conſiderable iſlands, ſeen ſome days after having quitted Single Iſland. Tienhoven was coaſted along during an entire day without ſeeing its termination; it appeared to extend itſelf in a ſemi-circle towards Groningen. Neither the Dutch account nor its chart make mention of theſe two iſlands; and the French account, which ſpeaks of them, points out neither their latitude, nor their diſtance from any other land, ſo that it is not poſſible to aſſign them any place in the chart.

29. *New Caledonia.* It does not appear, that the ancient navigators had any knowledge of this iſland. M. De La Pérouſe is referred to the particulars given of it by capt. Cook, who diſcovered it in his ſecond voyage. See his ſecond voyage, vol. II, page 103, and following, of the original, and the chart which relates to his diſcovery.

30. *The Iſland of Santa Cruz*, an iſland diſcovered by him, in his ſecond voyage, in 1595, or Egmont and Queen Charlotte's Iſlands, viſited by Carteret in 1767. See the *Navigations aux Terres Auſtrales* of the preſident de Broſſes, vol. I, page 249, and following; Dalrymple's Hiſtorical Collection, vol. I, page 57, and following, and page 185; *Découvertes dans la Mer du Sud*; Hawkeſ-

Hawkeſworth's Collection, Carteret's Voyage, vol. I, page 568, and following.

31. *Tierra del Eſpiritu-Santo*, of Quiros, diſcovered in 1606, or Great Cyclades of Bougainville, in 1768, and New Hebrides of Cook, in 1774. See *Navigations aux Terres Auſtrales*, by de Broſſes, vol. I, page 306, and following; vol. II, page 243, and page 348 and following—An Hiſtorical Collection, by Dalrymple, vol. I, page 95, and following, and page 203, and page 1 of the Data---*Découvertes dans la Mer du Sud*, page 201, and following, and page 427---*Voyage de Bougainville*, page 242, and following;---Cook's ſecond voyage, vol. II, page 23, and following, of the original, and the chart of the New Hebrides, vol. II, page 25, *ibid.* All this part has been laid down on the chart of the Great Equatorial Ocean, from the journal and obſervations of captain Cook.

32. *Terre des Arſacides*, diſcovered by Surville in 1769.

Surville* had the firſt ſight of this land the 7th of October, 1769; it appeared to him very high and woody. At the time of the diſcovery the latitude of the ſhip was 6° 57′ ſouth, and its longitude by account 152° 28′ eaſt of Paris: but this longitude, corrected by that of New Zealand, determined by captain Cook, where Surville

* Extracted from the manuſcript journal of M. De Surville.

touched,

touched, ought to be 153° 45′ at the place of his land-fall, which is a few leagues only north-weſt of his Port Praſlin.

He ſailed along the coaſt in the direction of eaſt-ſouth-eaſt, and found a harbour formed by an aſſemblage of iſlands, where he anchored, to which he gave the name of *Port Praſlin*. In his way to this harbour, after he had diſcovered land, he met with a great number of little iſlands, which appeared, at firſt ſight, to make part of the continent, but he found them afterwards to be little iſlands at three leagues diſtance from the main land*; Friday, the 13th, he anchored in Port Praſlin, of which he has given a plan†: the iſlands which form it were covered with trees, and at high water were partly inundated.

The natives of the country ſhewed great diſtruſt; and after having given the French to underſtand, by ſigns, that water might be had at a certain place, which they pointed out at the bottom of the harbour, they drew them thither that they might fall into an ambuſcade. A briſk engagement enſued, when Surville's people re-embarked

* The different views of theſe coaſts, ſuch as they were taken from the ſhip's deck, and the complete Journal of Surville, may be ſeen in the *Découvertes des Français en* 1768 *et* 1769, *dans le Sud-Eſt de la Nouvelle Guinée*, &c. Paris, imprimerie royale, 1790.

† Ibid.

in

in their boats, many of them being wounded, and thirty or forty of the ſavages killed.

The people who inhabit theſe countries are in general of the negro ſpecies; they have woolly black hair, flat noſes, and thick lips. They powder their heads with lime, which, without doubt, burns their hair, and makes it appear red. The cuſtom of thus powdering themſelves has been remarked, by M. de Bougainville, of the people who inhabit Baie de Choiſeul, on the north-weſtern part of this continent. They have bracelets of ſhells for ornaments, and they wear intire ſhells round their necks, and girdles of human teeth (without doubt thoſe of their enemies whom they have made priſoners of war); the greater part have a large hole bored in their ears, and through the cartilage of the noſe, from which are ſuſpended bunches of flowers. Their weapons are lances from eight to nine feet in length, clubs, or bludgeons, of the ſame materials, bows and reed arrows of forty or forty-four inches in length, the points of which are tipped with a ſharp bone; they carry a ſhield made of ruſhes and the bark of a tree, two or three feet long and one broad. Their canoes are very light, and are from fifteen, or twenty-five, to ſixty-five feet in length. The ſeams are covered with a kind of cement, which renders them impenetrable to the water.

Surville could obtain no ſupplies from theſe

people. He only got poſſeſſion of a young ſavage, of thirteen or fourteen years old, whom he deſigned to make uſe of as an interpreter, in the proſecution of his diſcoveries.

He left Port Praſlin the twenty-firſt of October, and continued to ſtretch along the land towards the eaſt-ſouth-eaſt, and afterwards towards the ſouth-eaſt. In many places he loſt ſight of the coaſt, and could perceive no land in theſe intervals; he thence concludes, with reaſon, that the chaſms, or openings, are bays, very deep gulfs, or channels, which, dividing the land into many iſlands, form an archipelago. In his way many canoes came off from the ſhore, and went on board him. He made numerous preſents to the ſavages, but every where obſerved marks of the greateſt diſtruſt. Theſe people are great thieves, like all the inhabitants in the iſlands of the Great Equatorial Ocean.

Surville obſerved, that the young Indian, whom he had brought from Port Praſlin, could not make himſelf underſtood by the inhabitants of the coaſt, and that he was in great fear of them, a circumſtance which induced Surville to believe that this land was of great extent, and that the people of the different iſlands in this archipelago have no communication with each other but to make war.

When he had reached the iſland, which he called

called *De La Contrariété*, ſituate about 4 degrees and half to the eaſtward, and 2 degrees to the ſouthward of Port Praſlin, he found a people reſembling thoſe of that harbour; robuſt men, intirely naked, of the height of five feet and five feet and a half (French) having woolly hair, and powdering it with lime, wearing the ſame ornaments, and uſing the ſame arms. Theſe went on board his ſhips with the greateſt boldneſs, accepted all that was given them, and endeavoured to ſteal that which was not given them. The country in this part wore a pleaſing aſpect; the odour of the aromatic plants, which reached the very ſhips, occaſioned Surville to regret, that he could not land in a gulf, which he ſuppoſed to exiſt to the weſtward of the iſlands, which he called *The Three Siſters.*

When he had arrived at 11° 7′ ſouth latitude, and 159° to the eaſt of Paris, he perceived a large cape, with two little iſlands before it; and from this point he ſaw the land ſtretching away to the weſt and ſouth-weſt. As he perceived no other beyond this cape, and was in haſte to get a clear offing, he called the iſlands, which he ſaw, *Iſles de la Délivrance*, and the cape, *Cap Oriental des Arſacides.* The 8th of November he loſt all ſight of the land.

Such is the epitome of Surville's Diſcovery, to which is connected land ſeen by Bougainville, which is the north-weſt part of the *Terre des*

*Arſacides.* See his voyage, page 264, and following.

It will be proper alſo to conſult the account that Figueroa has given * us of Mendana's Diſcoveries, in his firſt voyage, in 1567. There is every reaſon to believe, after numerous combinations and compariſons, that *Solomon's Iſlands*, diſcovered at that period by Mendana, are the ſame which have been ſince found by Surville, in 1769.

M. De La Pérouſe, in the collection of manuſcript charts, committed to his care and uſe, will find one relating to the modern diſcoveries in this part, upon which the diſcoveries of Mendana have been endeavoured to be repreſented, as well as they could be laid down, after the deſcriptions given by Figueroa, Herrera, and other Spaniſh hiſtorians, who do not agree upon the particular extent of the different iſlands, or on their relative poſitions; but it was ſufficient to ſhew the preſumed identity of the diſcoveries of Mendana and of thoſe of Surville; and it is certain, that the reſearches which M. De La Pérouſe is expected to make will eſtabliſh that which is here only preſented as a probability.

* See *Echos de D. Garcia Hurtado de Mendoza, quarto Marquez de Cannete*, by Chriſtoval Suarez de Figueroa; Madrid, 1613----*Hiſtorical Collection*, by Dalrymple, vol. I, page 176---Découvertes dans la Mer du Sud, tranſlated from the Engliſh by Freville, page 89.

33. *Terres De La Louiſiade*, diſcovered, in 1768, by M. de Bougainville.

Theſe lands were unknown before this period. There was only an imperfect and confuſed relation of a diſcovery, in 1705, of the northern coaſt by the Dutch yacht, the *Geelvinck*.

For Louiſiade, ſee Voyage de M. De Bougainville, page 255, and following: and for the journal of the Geelvinck* the *Navigations Auſtrales*, of the preſident de Broſſes, vol. II, page 444.

34. *Endeavour Straits*, between New Holland and New Guinea.

See Hawkeſworth's Collection of Voyages round the World, vol. III, p. 610, and following (Cook's firſt Voyage).

It appears that Torrez, who commanded one of the ſhips of Quiros's fleet, in 1606, is the firſt navigator who paſſed between New Holland and New Guinea.

See the relation of Quiros's voyages in the authors cited in theſe notes.

35. North and weſt coaſts of New Holland.

There is nothing to be offered, which can be

* It is now proved, that the poſition firſt given to Geelvinck's Land is not the true one. See *Découvertes des Français en* 1768 *et* 1769, *dans le ſud eſt de la nouvelle Guinée*, page xiv of the preface. *(Fr. Ed.)*

deemed authentic, or ſufficiently detailed, concerning this part of the greateſt iſland in the world.

M. De La Pérouſe is referred to the *Voyages de Dampier*, for the northern coaſt, ſome parts of which this exact navigator has reconnoitred; and to *Navigations aux Terres Auſtrales*, by the preſident de Broſſes, vol. II, page 438, for the north and weſtern coaſt, and vol. I, page 426, and following, for the diſcoveries of the Dutch in New Holland.

There is added to the collection of manuſcript charts, put into M. De La Pérouſe's hands, a copy of that which is referred to by the preſident de Broſſes, and which contains the examinations and diſcoveries the Dutch made of part of the weſtern coaſt. The ſoundings too are added, and particulars extracted from the journals of the Engliſh navigators, who have been there more recently.

36. *South of Van Diemens Land*, a part of the ſouth of New Holland.

See, in the hiſtory of captain Cook's ſecond voyage, what has been ſaid by captain Furneaux, who was there in the month of February, 1773, (vol. I, page 107, and following, of the original).

See alſo captain Cook's third voyage, vol. I, page 91 of the original.

37. *Iſland of New Zealand.* This land was diſcovered, in 1642, by Abel Taſman, a Dutchman: but as the details which he has given are in no reſpect

reſpect circumſtantial, it would be uſeleſs to repeat them, and Captain Cook's voyages leave nothing wanting on this head: See Hawkeſworth's Collection, vol. II, page 281, and following, of the original (Cook's Voyage); Captain Cook's ſecond voyage, vol. I, page 69 of the original, *ibid*, page 225, and following, vol. II, page 146, and following; Cook's third voyage, vol. I, page 118, and following, of the original.

In theſe works are to be found, independently of deſcriptions and aſtronomical and nautical obſervations, all the charts and particular plans which have been conſtructed by the Engliſh navigators.

38. *Marquis of Mendoza's Iſlands*, diſcovered, in 1595, by Alvar Mendana, a Spaniard: See in note 28 Mendana's ſecond voyage.

Theſe iſlands were again diſcovered in 1774, by captain Cook, and nothing better can be done, than to refer to his account for all that concerns their deſcription and their geographical poſition. (Cook's ſecond voyage, vol. I, page 297, and following, of the original).

39. *Iſles of Nublada*, *Rocca-Partida*, and others, on the eaſt-ſouth-eaſt of Sandwich Iſlands.

It is believed that Juan Gaetano, a Spaniard, is the firſt navigator, who had a knowledge of theſe iſlands, in 1542.

He left Porto-Santo, near Port Nativity, on the coaſt of Mexico, about 20° of north latitude.

He diſcovered ſucceſſively the iſlands Nublada, Rocca-Partida, and 200 leagues weſtward of this laſt, a bank, in 13 or 14 degrees north latitude, upon which he found but ſeven fathoms water. Continuing his courſe to the weſtward, he met with ſome other iſlands lying to the weſt of the Sandwich Iſles. (*Raccolte di Navigationi e Viaggi da Ramuſio*, vol. I, page 375).

The iſlands diſcovered by Gaetano have been laid down on the chart of the Great Equatorial Ocean, with which M. De La Pérouſe is furniſhed, according to that of Anſon's voyage, which Anſon had copied from one he found on board the Manilla galleon when he captured it.

40. *Sandwich Iſlands*, diſcovered by captain Cook, in his third voyage, in 1778.

Although the courſes of the Spaniſh galleons would readily enable theſe veſſels to examine iſlands ſituate between the 19th and 20th north parallels, yet it does not appear, that, in any period, the Spaniards have had a knowledge of them. They offer an excellent port for their ſhips, which trade from Aſia to America over the Great Equatorial Ocean; and it is not likely, that they would have neglected forming an eſtabliſhment

on

on iſlands ſo advantageouſly ſituated for communication between the two continents. We owe all the particulars that we poſſeſs concerning theſe iſlands to captain Cook and captain King. See Cook's third voyage, vol. II, page 190, and following, 525 and following, and page the 1ſt, and following, of the 3d vol. in the original.

## GREAT NORTHERN OCEAN.

41. *North weſt coaſt of America, from Port Monterey, ſituate in about* 36° 42′ *of north latitude, to the Aleutian Iſles.*

In 1769 and 1770 the Spaniards ordered Port Monterey to be examined, as well as that of San Diego, which is more to the ſouthward; they raiſed little forts there, and formed a kind of eſtabliſhment, fearing that ſome foreign power might extend its views to coaſts which, though in the neighbourhood of the poſſeſſions of the Crown of Spain, appeared not to belong to it.

The expedition was ordered by the marquis de Croix, viceroy of New Spain, prepared by Don Joſeph de Galvez, intendant of the army, viſitor general of the kingdom, and executed by Gaſpar de Portola, captain of dragoons, commander of the troops, and by the packet-boats the San-Carlos and the San-Antonio, commanded by Don Vicente

Vicente Vila, pilot of the royal navy, and Don Juan Perez, pilot for the navigation of the Philippines.

The journal of this voyage has been printed in Spaniſh, at the printing-office of the government of New Spain.

It is ſaid in this work, that the conſtancy of the north and north-weſt winds, which predominate to the northward of California almoſt all the year, oppoſes great difficulties to all ſhips which would run to the north-weſt coaſts of America.

The country to the north of the peninſula of California is, from the ſame authority, tolerably fertile, and the natives very tractable.

The Spaniards ſpent more than a year in finding again the port of Monterey, although they ought to have been well acquainted with its poſition, ſince it had been diſcovered, in 1602, by the general Viſcaino, commandant of a ſquadron, which Philip the Third ordered to be fitted out for the diſcovery and reconnoitring of the coaſts to the north of California. After great fatigues, and long reſearches by ſea and by land, they ſucceeded at length in diſcovering it anew in 1770, nearly in the parallel that Viſcaino had pointed out in the relation of his diſcoveries.

According to the obſervations made by the Spaniards in 1770, the Port of Monterey is ſitu-

ate in latitude 36° 40′*, immediately to the northward of the chain of mountains, (or Sierra) of Santa-Lucia.

It is a vaſt bay, much reſembling that of Cadiz, with anchorage in four, ſix, or eight fathom water, according as the anchor is let go nearer to or farther from the ſhore: it is good holding ground, fine ſand. An interval of ſome years elapſed without any proſecution of theſe northern diſcoveries by Spain. The entrance and the ſucceſſive runs of numerous Engliſh ſhips in the Great Ocean, at length rouſed its attention; and in 1775, the viceroy of Mexico, Don Antonio Maria Bucarelli, ordered an armament to proceed in the inſpection of the north-weſt coaſts of America, as far as 65°.

Three ſmall ſhips were employed in this enterprize, which was entruſted to Don Juan de Ayala. The Hon. Daines Barrington tranſlated into Engliſh the journal of Franciſco Antonio Maurelle, pilot of the ſecond ſhip, commanded by Don. J. F. De La Bodega, and has printed it in his Miſcellanies (London, 1781, in 4to.) It is from the tranſlation of Mr. Barrington, that the following abſtract of the voyage of the Spaniards is taken.

* In the voyage that the Spaniards made, in 1775, to the northern coaſt of California, which is related hereafter, they fixed the latitude of the Port of Monterey at 36° 44′ north.

They

They failed from San Blas* the 17th of March, 1775, meeting with contrary winds during the firſt part of their voyage; and the 21ſt of May, after a conſultation of all the officers, it was decided, that they ſhould aſcend as high as the 43d degree of latitude, rather than put into the Port of Monterey. This deciſion was founded upon the hope of finding at this height the entrance of Martin d'Aguilar†, diſcovered in 1603, where water might be had, and the ſhips refitted. (In ſome charts this entrance is laid down in 45 degrees).

The 7th of June, in latitude 41° 30′, although ſtill at a conſiderable diſtance from land, they diſtinguiſhed a long range of coaſt, which extended from the ſouth-weſt to the north-eaſt; a calm prevented them from getting near it.

The 8th, they perceived the land much more diſtinctly at nine leagues diſtance; the currents, according to their obſervation, had carried them to the ſouthward twenty-nine minutes in twenty-four hours.

The 9th they entered a harbour, which they called *Trinidad*, ſituate in 41° 7′ ob-

* On the coaſt of New Gallicia, a province of Mexico, at the entrance of the Vermillion Sea.

† M. De La Pérouſe will find in the *Conſidérations géographiques & phyſiques* of Philip Buache, all the information that can be had relative to this entrance of Aguilar, and to that of Fuca, mention of which is made in this journal.

ſerved

ſerved latitude, and 19° 4′ to the weſtward of San Blas.

The Spaniards ſpeak highly of the country, and its inhabitants. Theſe Americans paint their bodies black and blue, and they have nearly the ſame cuſtoms, and uſe the ſame weapons as thoſe whoſe deſcription is found in the account of the third voyage of captain Cook, when he viſited the north-weſt coaſt of America. We are not in poſſeſſion of any chart of this harbour, but the journal informs us, that it was drawn by Don Bruno Heceta, J. F. De La Bodega, and F. Antonio Maurelle, the author of the narrative. It is there ſaid, that although the harbour is repreſented as open, yet it is to be underſtood, that it is ſheltered on the ſouth-weſt, as well as on the north-north-eaſt, and eaſt.

On the weſtern part is a hill, fifty fathoms in height, contiguous to the northern coaſt, on which is ſituate another of twenty fathoms, each of them offering a ſafe ſhelter, not only againſt the winds, but even againſt an enemy.

At the entrance of the harbour is a little iſland of conſiderable height, quite barren; and the two ſides of the coaſt are ſkirted with high rocks, which offer an eaſy landing, veſſels being able to go ſo near them, that a communication may be formed with the land by a ladder. Near the flat part of the ſhore are ſeveral ſmaller rocks, which

which ſhelter a veſſel at anchor from the ſouth-eaſt and ſouth-weſt winds.

The tides are as regular there as in the ſeas and on the coaſts of Europe.

The Spaniards, during their ſtay, tried to go in a boat up a river, which runs from the north-eaſt to the ſouth-weſt, and which they had diſcovered from the ſummit of a mountain: they found that the mouth was larger than neceſſary for the diſcharge of its own waters, which loſt themſelves in the ſand on the ſhore; being, however, unable to aſcend it at low water, they traced its banks on foot for the ſpace of a league, and found it to be in moſt places twenty feet in breadth, and five in depth. They denominated it *Rio de las Tortolas* (the River of Turtle Doves*) becauſe on their arrival they perceived a great many of theſe, as well as of other birds.

They found ſome plants and fruits upon the ſkirts of the mountains, and in the vicinity of the harbour.

They quitted the port of Trinidad, the 19th of June, with a north-weſt wind, which had prevailed during their whole ſtay at the place.

It appears, that Don Juan Perez†, one of the officers of the ſquadron, had already been employed in ſome

* Mr. Barrington tranſlates it *Pigeon's River*.

† This Don Juan Perez is, without doubt, the pilot of the Philippines, employed in the expedition undertaken in 1769, but

ſome diſcoveries to the northward, of which no information is given; for, whether he were actually on board the fleet, as may be concluded from ſome circumſtances of the narrative, or whether they were only poſſeſſed of his journal, it is evident, that his advice is cited with marks of great deference. He repreſented, that there had been winds from the ſouth and ſouth-eaſt, which had enabled him, and without much difficulty, to keep along the coaſt to the high latitudes. His opinion was, that it ought not to be approached before arriving at the 49th degree, and Don Maurelle, author of the relation from which this extract is made, was of his opinion.

The 9th of July, the Spaniards judged themſelves to be in latitude 47° 40′, and according to the French charts, which they found very defective in this part from a want of authentic materials, in the latitude of an entrance, or river, ſaid to have been diſcovered by Juan de Fuca, in 1592. They perceived that the ſea was coloured as it uſually is within ſoundings of a coaſt: they ſaw at the ſame time a great many red fiſhes, twenty feet in length, and ſea oranges (a ſpecies of marine plant). Every thing inclined them to believe they were not far from land.

but the Spaniards did not then puſh their inquiries ſo far to the northward as in this of 1775. It would appear, that Mr. Barrington had no knowledge of the expedition of 1769.

The

The 11th they got ſight of it at twelve leagues diſtance.

The 12th at night they were only a league from it. They diſtinguiſhed numerous little iſles and mountains covered with ſnow; they ſaw alſo a barren little iſland of only half a league in circuit, which they named *Iſland of Dolores*. In this poſition they eſtimated their latitude at 47° 39′, longitude 21° 53′ weſt from the meridian of San Blas.

The 13th they anchored on the coaſt in 30 fathoms water, two leagues and a half from the land, to wait for one of the ſhips which had fallen aſtern, lat. 47° 28′, and 21° 34′ to the weſt of San Blas.

They ſet ſail again in the evening; and when the ſquadron was collected together they anchored again in eight fathom, lat. 47° 21′, and long. 21° 19′ weſt of the meridian from which they ſet out.

The natives of the country appeared in great numbers in their canoes, and even went aboard the Spaniſh ſhips. They were preſented, in exchange for the ſkins that they brought, with articles of copper and bits of this metal, on which they appeared to ſet the greateſt value; they expreſſed their deſire for theſe, by pointing to the googings of the rudder.

The Spaniards were deſirous of going aſhore for wood and water, but the Americans, who had

placed themſelves in ambuſcade, wounded many among them; and on the ſide of the natives a conſiderable number were killed.

The Spaniards again put to ſea, the winds continuing to blow from the north-weſt and north.

On the firſt of Auguſt came on a thick fog, they therefore ſtood off from the coaſt.

On the fifth, winds from the ſouth-eaſt.

On the 13th, a change in the colour of the ſea; vaſt numbers of ſea oranges, and many birds.

The ſigns of land became more numerous on the 14th and 15th: they then reckoned themſelves in latitude 56° 8′, 154 leagues* weſtward of the continent, and only ſixty leagues from an iſland, which was laid down (ſays the journal) upon their chart, and which Maurelle repreſents as the projecting point of an archipelago, ſituate upon the ſame parallel. It appears, that the chart in queſtion is that of Don Juan Perez †, who had already, as has been ſaid, made a voyage to the north, but there is nothing further known of this

* Of 17 and a half to a degree.

† It ſeems that Don Juan Perez could not poſſibly have any practical knowledge of the country or ſeas to the north; for, in the expedition of 1769, in which he was employed, the Spaniards had aſcended only to Monterey, ſituate in lat. 36° 40′ or 44′.

iſland. It is not ſaid in the journal whether it were to the eaſtward or to the weſtward of the ſhip. It is, however, very probable, that Maurelle ſpoke of ſome iſland bordering on the peninſula of Alaſhka, ſuch as Cook's Trinity Iſland, and that he conſidered Alaſhka, and all the iſlands which are in its neighbourhood, as forming an archipelago. This appeared to be the opinion of the Ruſſians before the diſcoveries of Cook threw light upon that part of America.

The 16th, at noon, the Spaniards diſcovered land in the north-weſt; and a little time after, it appeared open to the north-eaſt, and preſented to the view ſeveral capes and mountains, among which was one, eminently overtopping all the others: it is (ſays the author of the journal) of an immenſe height, its ſummit inclines conſiderably on one ſide, and its form is the moſt beautiful and moſt regular that was ever beheld; it is inſulated, being detached from a chain of other mountains. The ſummit was at the time covered with ſnow; below were ſeveral large bare ſpaces, which extended to the middle of its ſides, and from this height, to its baſe, the ſurface was covered with trees of the ſame kinds as thoſe which had been ſeen at Trinity Harbour.

The Spaniards gave the name of *San Jacinto* (Saint Hyacinth) to this iſland; and the cape, which terminates it on the ſide next to the ſea, was

called *Del Enganno*, (Cape Deceit). The journal places the mountain and the cape in latitude 57° 2′, and the author adds that, by two obſervations repeated at the diſtance of a mile, it was concluded that they were 34° 12′ weſt of the meridian of San Blas; but he leaves every thing in the dark as to the means made uſe of for aſcertaining the longitude. It is, however, from the poſition of this cape, that all the other points of the coaſt, as mentioned, have been laid down upon the chart of the voyage which accompanies the journal. (Mr. Barrington, who obtained a copy of the journal, and tranſlated it, could not procure the chart).

The 17th of Auguſt a faint breeze from the ſouth allowed the Spaniards to enter a bay in latitude 57° 11′, and 34° 12′ weſt of San Blas. This bay is three leagues wide at its entrance, and is protected on the ſouth ſide by Cape del Enganno. Upon the coaſt oppoſite to this cape, they diſcovered a harbour, the mouth of which was more than a league acroſs, ſheltered from all except ſoutherly winds. They ſurveyed the whole curve of the bay, at a little diſtance from the coaſt, and never found leſs than fifty fathoms water; but the mountains running to the very edges, they could diſcover no beach proper to land at. They diſtinguiſhed nevertheleſs a ſmall river, but as it was night, could not get nearer to inſpect it, they

therefore let go the anchor in ſixty-ſix fathoms water, clayey bottom.

They called this bay *De Guadalupa.*

When they were getting under way on the 18th, they ſaw two canoes, each containing four Americans, two men, and two women, who appeared unwilling to approach near the ſhips, but made ſigns to the Spaniards to go on ſhore.—The navigators continued ſailing along the coaſt with a wind to the north-weſt till nine o'clock in the morning, when they entered another harbour not ſo large as the former, but the environs of which appeared to offer more reſources to navigators: a ſtream eight or ten feet wide empties itſelf into it; and a continued chain of lofty iſlands very near each other protects it from almoſt every wind. They anchored there in eighteen fathom water, ſandy bottom, about piſtol ſhot from the ſhore; they ſaw upon the bank of the river a high building, and a wooden parapet, ſupported by ſtakes driven into the ground; they diſtinguiſhed ten Indians there, beſides women and children.

They called this harbour *De Los Remedios* (Remedies) and found it to be ſituate in lat. 57° 18′, and 34° 12′ weſt of the meridian of San Blas.

They erected a croſs on the ſhore, and cut another in the rock, and performed the ceremony of

of taking poſſeſſion of the country, conformably to their inſtructions.

They then made choice of, and marked out, a place for taking in wood and water.

During all this time the Americans did not quit their parapet; but as ſoon as the Spaniards had retired, the Indians tore down the croſs which had been ſet up, and planted it in the ſame manner before their houſe, and made ſigns, by opening and extending their arms, that they had taken poſſeſſion of that ſymbol.

The 19th, the Spaniards having gone on ſhore to take in wood and water, the Americans ſhewed themſelves on the other ſide of the river; they were unarmed, and carried a white leaf at the end of a pole. The Spaniards made ſigns to them, that they were only come to take in water: upon which the chief of the Indians, judging the ſigns implied, that they were thirſty, advanced into the middle of the brook, holding in his hand a cup filled with water, as alſo ſome dried fiſh, which were received by a Spaniard, and preſented by him to their commander, who in return ſent to the Americans ſome glaſs beads and bits of cloth. They ſignified that theſe preſents did not pleaſe them; but inſiſted, by ſigns, that others ſhould be ſent to them, when, upon the refuſal of the Spaniards, they menaced them with long lances, armed at the point with ſharpened ſtones.

The Spaniards contented themſelves with remaining on their guard; and when the Indians found they had no mind to attack them, they retired.

Wood and water ſo much wanted were procured.

The mouth of the river affords a very ample ſupply of fiſh; the country is covered with firs, as at Port Trinity; the inhabitants are clothed in the ſame manner, and like them wear a bonnet over their hair which covers the whole head. The Spaniards judged from many particulars, that the ſavages of this country have a ſort of civilization.

The cold was exceſſive, the rain abundant, and the fogs very thick. They never perceived the ſun during the three days that they paſſed in the harbour of Los Remedios.

They quitted it the 21ſt of Auguſt, and ſtood to the northward, with the wind from the ſouth-eaſt.

The 22d, latitude 57° 18′.

They ran into the 58th degree of latitude in viſiting this coaſt, where they made no diſcovery; and they concluded that all the ſtraits, or ſuppoſed entrances, had no exiſtence. Sickneſs had made conſiderable ravages among the crews for ſome time, and as its fatal effects augmented every day, they deemed it impoſſible to puſh their inquiries to a higher latitude, but giving up the enterprize, they made ſail to the ſouth-eaſt.

The 24th Auguſt, being in latitude 57° 17′, they doubled a cape, and entered into a great bay,

bay, where they diſcovered an arm of the ſea to the northward: they experienced very troubleſome cold weather; but the ſea was quite ſmooth, and the ſhips in perfect ſafety from any wind.

The anchorage is good, and the freſh water abundant, either from the lakes or the rivers, affording plenty of fiſh. They had the bay examined by means of one of the ſchooners, and they dropped their anchor at the entrance of the arm of the ſea, in 20 fathom water, in a bottom of ſoft mud. This harbour was called *Bucarelli*, after the name of the viceroy of Mexico: a milder climate was experienced here than in latitudes not ſo high; and this difference was imputed to the volcanoes which are found in the neighbourhood of this harbour, and the fires of which are perceived in the night, though at a very conſiderable diſtance.

The Spaniards took poſſeſſion of the country in the name of his Catholic Majeſty, and they provided themſelves with water and wood.

They imagined, from the ruins of a hut, and by other marks, that the country was inhabited, but they ſaw not one inhabitant.

By two obſervations made on different days, they fixed the latitude of Bucarelli at 55° 17′, and its longitude at 32° 9′ weſt of the meridian of San Blas.

The mountains in the environs of this harbour are covered with trees of the ſame ſpecies

as thoſe which are found in the leſs northerly parts of this coaſt.

At the diſtance of ſix leagues was perceived an iſland of a moderate height, which they called *San Carlos*.

They ſet ſail again on the 29th, with the wind at north, blowing pretty freſh, but at noon a calm ſucceeded, and they found themſelves abreaſt of a very low and barren iſland; it is ſkirted with rocks to the eaſt and weſt. They anchored in 22 fathoms water, and about two leagues diſtance from the Iſland of San Carlos.

In this poſition, a cape was diſcovered at the diſtance of four or five leagues, which was called *Cape Saint Auguſtin*.

In going from this cape, the coaſt ſtretches to the eaſt as far as the eye can reach it.

The force of theſe two currents, which in this place run in oppoſite directions, was ſo violent, that it was not poſſible to ſound: and as theſe currents appeared to follow and depend on the tides, it was concluded that the opening perceived in the land might be a river, or that at leaſt this entrance had no communication but with the Great Northern Ocean.

Cape Saint Auguſtin is ſituated in about 55° latitude.

As the ſeaſon was not yet advanced, the zeal of the Spaniards began to revive; and with the view

view of fulfilling the intentions of his Catholic Majeſty expreſſed in their inſtructions, they determined to attempt to get again to the northward.

The 28th of Auguſt, the wind was variable, they availed themſelves of it to approach the coaſt, and they found there, as they expected, the winds from the ſouth-weſt.

The 29th and 30th, wind ſouth, veering towards the ſouth-weſt, in ſudden and violent ſqualls, ſea running high, till the firſt of September; they were carried, during this interval, as far as latitude 56° 50′.

In the beginning of September the winds were variable; but the 6th they ſettled in the ſouth-weſt, and blew a violent ſtorm. The 7th, the wind having ſhifted to the north, they ſtood in for the land again, in latitude 55 deg.; the crews were worn out with fatigue, and ſcarcely could they find one man, in either of the veſſels, able to aſſiſt in working the ſhip with the officers, who were obliged to ſupply the want of ſailors: every idea of proſecuting the diſcoveries to the northward was now abandoned.

The 11th, in latitude 53° 54′, land was ſeen at eight or nine leagues diſtance: they kept a ſufficient offing to be in no danger of getting embayed, and yet near enough not to loſe ſight of it; but it was impoſſible to make any obſervation on the coaſts. It was only in latitude 47° 3′, that, ſailing at the diſtance of a mile from the land, the capes, the creeks, and other remarkable points could be diſtinguiſhed in ſuch a manner

as

as to be laid down upon the chart they were conſtructing.

The 20th, they were half a league from the coaſt, preciſely in the ſame ſituation they had been in, the 13th of July preceding, but it was diſcovered that there was a difference of ſeventeen leagues (Spaniſh) between the longitudes, by account of theſe two periods of time.

The 22d, with the wind at north-weſt, they directed their courſe to fetch Port Monterey.

The 24th, land was ſeen in latitude 45° 27′, and they coaſted it within cannon ſhot. They lay to during the night, becauſe they reckoned themſelves in the ſuppoſed latitude of the entrance of Martin d'Aguilar, the exiſtence and poſition of which they wiſhed to verify. This reſearch was continued as far as the parallel of 45° 50′, and 20° 4′ to the weſt of San Blas. Arrived at this latitude and longitude, a cape was diſcovered reſembling a round table, which they called *Cape Mezari*, beyond which the coaſt runs away to the ſouth-weſt. Ten ſmall iſlands were perceived, and ſome iſlets almoſt level with the water, whence it may be concluded, that, if the entrance or river of Martin d'Aguilar exiſted in this part, it could not have eſcaped a reſearch made ſo near to the coaſt: the author of the journal agrees, however, that d'Aguilar had pointed out the latitude of 43 degrees for the entrance of his river; but he obſerves

obſerves, that the inſtruments of which this ancient navigator muſt have made uſe, in 1603, could not but be very defective, and that he ought not to rely upon the latitude he aſſigned to the entrance. It may be ſuppoſed, adds he, that d'Aguilar has pointed out too northerly a latitude, and that we might have found his river, at 42°, or below; yet, it is ſcarcely to be hoped, ſince, except fifty minutes or thereabouts, this part of the coaſt has been viſited.

The Spaniards, in returning to Monterey, again ſought for the harbour of San Franciſco, and having found it in latitude 38° 18′, they entered a bay ſheltered from the north and ſouth-weſt, whence they diſtinguiſhed the mouth of a great river, and, a little higher, a large harbour of which the form was that of a baſon. They judged that this might be the harbour of San Franciſco, which the *Hiſtoire De La Californie* places in 38° 4′; but the roughneſs of the ſea did not allow them to enter it: they doubted, however, on examining it nearer, whether it were Port San Franciſco, becauſe they ſaw no inhabitants, and did not perceive the little iſlands deſcribed to be oppoſite to it. In this ſtate of uncertainty they let go the anchor near one of the two points, or capes, which form the entrance of the harbour, and they called that point near which

which they anchored, and which is the northernmoſt, *Punta De Arenas*, (Sandy Point.)

The natives of the country ſoon preſented themſelves on both ſides of the harbour, and rowed from one ſide to the other in their canoes; two of theſe canoes left the reſt, and came along ſide the ſhips; thoſe who went on board carried with them, and offered plumes of feathers, in the form of aigrettes, and garlands, and a box filled with ſeeds, reſembling nuts in taſte, which they exchanged for glaſs beads, looking glaſſes, and ſcraps of cloth.

Theſe Indians are tall and ſtrong: their colour is that of all the people on this coaſt. Their proceedings had an air of generoſity; for they appeared not to expect any return for the preſents they made, and this was a conduct which the Spaniards had not before met with among any of the tribes they had had an opportunity of viſiting.

Sickneſs had made too great a progreſs among the crews, to allow them to ſtay and minutely examine the harbour, and to take its ſoundings; and as they could not perſuade themſelves that it was the harbour of San Franciſco, it was named Port De La Bodega.

It is certain, that this harbour is the ſame that Drake had diſcovered on the 17th of June, 1579, the

the latitude of which he fixed at 38° 30′. The account he gives of the inhabitants agrees with the recent report of the Spaniards. Theſe fix the latitude of their Port De La Bodega at 38° 18′, and its longitude at 18° 4′ to the weſt of San Blas.

The latitude pointed out by Drake differs only in 12′ from that of the Spaniards; and for the time when he obſerved, and the inſtruments which he made uſe of, it may be conſidered as exact. Mr. Barrington, with reaſon, reproaches the Spaniards for not having preſerved to this harbour the name of the *brave heretic* who firſt diſcovered the coaſts of the north-weſt part of America, of which he had taken poſſeſſion in behalf of the crown of England, and to which he had given the name of *New Albion.*

The 4th of October, the Spaniards quitted the port of Sir Francis Drake, with the firſt of the flood, the direction of which was contrary to the current of the river. Theſe two powers acting oppoſite ways, the waves, driven up on both ſides, roſe to ſuch a height, that they entirely covered the ſhip, and ſtove the boat to pieces, which was laſhed alongſide. The entrance of this harbour is not deep enough for a ſhip at anchor to reſiſt the impulſe and the ſwell of the ſea, when the tide and the current of the river are in oppoſition. The author of the journal

nal ſays, that, if they had been previouſly informed as to theſe circumſtances, either they would have kept their firſt anchorage, or have taken another further from the entrance of the haven. In every part they ſounded, they found an equal depth. Don Maurelle affirms, that it is eaſy to get into the harbour with north-weſterly winds, which predominate upon this coaſt; but he thinks, that it would be neceſſary for any one wiſhing to go out with the ſame winds, to anchor at a greater diſtance from the points; and he adds, that this precaution would be ſuperfluous when the winds are ſettled at ſouth-weſt, eaſt, or ſouth.

The mountains bordering on the ſea are abſolutely barren; but thoſe of the interior appear to be covered with trees: the plains exhibit verdure, and ſeem to invite cultivation. The account publiſhed by Drake ſays, that he called this country New Albion for two reaſons; the firſt, becauſe by the nature of the banks and white rocks, which edge the coaſt, it preſents the ſame aſpect as England: the ſecond, becauſe it was juſt and reaſonable, that this land ſhould bear the name of the country of the firſt navigator who had diſcovered it.

The Spaniards, as it has been ſaid, quitted Drake's Harbour, the 4th of October, and after having doubled the cape, which they called

*Del*

*Del Cordon*, and which forms the entrance of the harbour with that of *Las Arenas*, they made ſail to the ſouth-ſouth-weſt, with a moderate wind. They ſteered afterwards to the weſt, to make a cape, which was ſeen to the ſouthward, at the diſtance of about five leagues.

The 5th, they ſailed near the little iſlands which are ſituate to the weſt, and abreaſt of the harbour they had juſt quitted.

The 7th, they anchored in Port Monterey, in three fathoms water, ſandy bottom. They determined its latitude to be 36° 44′*, and longitude 17 deg. to the weſt of San Blas.

The firſt of November they left this port.

The fourth, at noon, with a fair wind at north-weſt, they continued their courſe to the ſouthward, until the 13th of the ſame month, when they had ſight of the coaſt of California; and they followed it as far as Cape S. Lucar, which they doubled the 16th at ſix o'clock in the evening.

They ſuppoſed this cape to be in latitude 22° 49′, and 5 deg. to the weſt of the meridian of San Blas.

The ſame day, the 16th, they got ſight of the Iſlands *Trois-Maries*, and, the 20th at night,

* The pilots employed in the expedition of 1769—70 determined this latitude to be 36° 40′.

they

they re-entered the port of San Blas, whence they had departed 260 days before.

In order to trace the north-weſt coaſt of America, upon the chart of the Great Boreal Ocean, with which M. De La Pérouſe is furniſhed, it has been a rule to regulate the geographical poſitions given by the Spaniards, by combining them with thoſe of captain Cook, which have ſerved to rectify the former in thoſe parts not within reach of being viſited, and of which the Spaniards had but a tranſient view. To the chart of the Great Equatorial Ocean are added particular charts of certain portions of coaſts, and plans of harbours and bays, different, in many reſpects, from thoſe which have been given, for the ſame parts, in the relation of captain Cook's third voyage. M. De La Pérouſe may have an opportunity of aſcertaining which of theſe plans are drawn in the moſt accurate manner. There is no certainty yet, whether that portion of America, which extends itſelf in a projecting point towards the ſouth-weſt, be an iſland, or a peninſula. The Ruſſian charts, that of Stæhlin in particular*, repreſents all the lands, compriſed under the name of Alaſhka, as a great iſland, ſeparated from the continent by a chan-

* An Account of the new northern Archipelago, lately diſcovered by the Ruſſians, in the Seas of Kamtſchatka, and Anadir, &c. London, 1774, in octavo.

hel forty leagues wide, with many ſmaller iſlands to the north and north-eaſt of Alaſhka. Captain Cook has viſited the coaſt, ſufficiently near in thoſe parts which he has reconnoitred to be certain that it is not interrupted, or divided by channels, and that the continent ſtretches itſelf, at leaſt, to the vicinity of the iſland of Shumagin. But he ſuſpects the exiſtence of a ſtrait to the north-north-weſt of the iſland Hatibut, which would ſeparate the Peninſula of Alaſhka from another portion of land ſituate in the ſouth-weſt, and deſignated upon the chart under the name of the *Iſland of Oonemak*.

M. De La Pérouſe is referred to *captain Cook's Third Voyage*, (vol. II, pages 403, and 488, of the original), and to the charts that are joined to it, as well as to thoſe which make a part of the manuſcript collection.

42. *Aleutian*, or *Fox Iſlands*, and other iſlands which are ſuppoſed to be ſituate to the weſt, weſt-ſouth-weſt, and weſt-north-weſt of them.

Captain Cook has only viſited the iſlands of Oonalaſhka, (part of the Fox Iſlands), and the ſtrait between theſe iſlands, with a few of the harbours which belong to them. With regard to the other iſlands of this cluſter, and of thoſe of other cluſters, ſituate more to the weſtward,

we have no knowledge but by the accounts of the Ruſſians, and they are too inexact to deſerve any confidence.

M. De La Pérouſe ought to regard them only as a nomenclature, and to look after theſe iſlands with the ſame precaution, as if they were abſolutely unknown. He will find all theſe accounts collected in the work of Mr. Coxe, the title of which is, "Diſcoveries of the Ruſſians;" and in the chart joined to this work, which gives all the diſcoveries of that nation to the eaſtward of Kamtſchatka. See pages 149, 194, of the tranſlation.

43. *The Harbour of Avatſcha*, or *Saint Peter and Saint Paul*, at the extremity of the Peninſula of Kamtſchatka.

To the collection of manuſcript charts, delivered to M. De La Pérouſe, is added, a particular plan of this port, upon a large ſcale, different from that which is found in captain Cook's third voyage, to which, however, he is referred for the nautical and other particulars which may be uſeful to him, when he touches at that port. *See Cook's Third Voyage*, vol. III, page 183, and following, page 284, and following.

44. *Kurile Iſlands.*

Captain Gore, who ſucceeded captains Cook, and Clerke, in the command, towards the end of the third

third voyage made by the Engliſh in the Great Northern Ocean, viſited none of the Kurile Iſles, and before which he paſſed, coaſting along the eaſt ſide of them.

If Muller may be believed*, it would appear that *Yeſo*, or *Jeſſo*, is the name that the Japaneſe give to all the iſlands that the Ruſſians deſignate under that of *Kurilſki*, or *Kuriles*. The firſt of theſe iſlands, the moſt northerly, is but a ſhort diſtance from the ſouth point of Kamtſchatka†: it is two or three hours row from one to the other; and it may be preſumed, after the accounts given of them, that the iſlands neareſt to Kamtſchatka only are tributary to Ruſſia; and that thoſe which lie more to the ſouthward are independent of it. Muller deſignates all theſe iſlands in the following order, commencing with the moſt northerly.

1. *Schumtſchu.*

2. *Purumuſchur*, at two or three hours diſtance from the firſt.

3. *Muſchu*, or *Ouikutan*, half a days journey from the ſecond.

4. *Ujachkupa*, weſterly of the three former, and at ſome diſtance from the firſt.

5. *Sirinki*, over againſt the ſtrait which ſeparates the ſecond from the third.

* *Voyages et Découvertes des Ruſſes.*

† Called *Lopatka Point.*

6. *Kukumiwa*, a little uninhabited iſland to the ſouth-weſt of the fifth.

7. *Araumakutan*, uninhabited, a volcano.

8. *Siaſkutan*, a few inhabitants; but thoſe of the neighbouring iſlands aſſemble there, for the purpoſes of traffic.

9. *Ikarma*, a little deſert iſland, to the weſt of the eighth.

10. *Maſchautſch*, a little deſert iſland, to the ſouth-weſt of the ninth.

11. *Igaitu*, another deſert iſland, to the ſouth-eaſt of the eighth.

12. *Schokoki*, a days ſail from the eighth.

13. *Motogo*, a little iſland to the ſouth.

14. *Schaſchowa*,
15. *Uſchiſchir*,
16. *Kitui*,

Ibid. N. B. Between theſe three iſlands the currents are very rapid, and the ſea riſes to a great height.

17. *Schimuſchir*, inhabited.

18. *Tſchirpui*, remarkable for a high mountain.

19. *Iturpu*, a large iſland, well peopled, covered with great foreſts: bears, and other ſpecies of animals are found there. It contains ſeveral anchorages and rivers, into which ſhips may retire for ſafety. It is believed, that the inhabitants of this iſland are independent of Ruſſia, and acknowledge no other dominion.

20. *Urup*.

20. *Urup.* I am aſſured, ſays Muller, that the inhabitants of this iſland are independent.

21. *Kunaſchir.* This iſland is the largeſt of all thoſe which have been mentioned, and its population is great.

22. *Matmai*, or *Matſumai*, the laſt iſland, and the largeſt of all. The capital town of the ſame name, Matmai, is ſituate on the ſea ſhore; on the ſouth-weſt ſide; it was built and is inhabited by the Japaneſe: it is a fortified place, furniſhed with artillery, and defended by a numerous garriſon.

The iſland of Matmai is the place of exile for perſons of diſtinction at Japan: it is ſeparated from that empire by only a narrow channel, but which is conſidered as dangerous, becauſe the capes, which project on both ſides, render the navigation difficult.

The Engliſh, in Cook's third voyage, have taken no notice but of the firſt and ſecond of the Kuriles, yet they have collected, from the clergyman of Paratounka, particulars intereſting in a conſiderable degree concerning theſe iſlands in general, and ſome of them eſpecially.

It appears, that the domination of the Ruſſians does not extend beyond the iſland of Uſchiſchir, the fifteenth named, and that all thoſe which follow it are independent. The people of

theſe iſlands paſs for being ſenſible to friendſhip, hoſpitable, humane, and generous. *See Cook's Third Voyage*, vol. III, page 378, of the original. Conſult alſo the Conſidérations geographiques et phyſiques of Philip Buache, page 55, and others.

45 *The Land of Yeſo*, or *Jeſſo*. It has been ſhewn in the preceding note, that the Japaneſe confound this coaſt or land with the Kurile Iſlands; but it is generally believed, that it ought to be diſtinguiſhed from them. Cook's voyage has thrown no light upon this matter; it even appears, that, to conſtruct the general chart of his voyage in this part, the old known charts have only been copied.

For the Land of Jeſſo, may be conſulted the various accounts collected by Philip Buache, who has inſerted them in his *Conſidérations Géographiques & Phyſiques*, page 75, and following. See alſo the charts belonging to this work, and a ſeries of views drawn by the Dutch, while they were examining a part of it, in 1643.

To the collection with which M. De La Pérouſe is furniſhed, is added the copy of the chart drawn by the Dutch, which details all the particulars of their diſcoveries.

46. *The eaſtern coaſt of Japan.* In Cook's third voyage is a chart of a ſmall part of this coaſt, and the nautical obſervations which relate

late to it. (Vol. III, page 397, and following, of the original). See alſo the chart compriſed in the collection furniſhed to M. De La Pérouſe.

47. *Lekeyo Iſlands*, to the ſouth-weſt of Japan; Philip Buache has given, in his *Conſidérations Géographiques & Phyſiques*, (page 130,) extracts from all the letters the miſſionaries have written relative to theſe iſlands, concerning which there is but little known at preſent. See alſo the *Lettres Edifiantes.*

48. *A large Iſland*, peopled and rich, ſaid to have been diſcovered by the Spaniards towards the year 1600.

In the Philoſophical Tranſactions of the Royal Society for the year 1674, No. 109, vol. 9, page 201, paragraph 11, is to be found the following note concerning this iſland: " That in the " South Sea, at the $37\frac{1}{2}$ deg. northern latitude, " and about 400 Spaniſh, or 343 Dutch, miles, " that is, 28 deg. longitude eaſt of *Japan*, there " lay a very great and high iſland, inhabited by " a white, handſom, kind and civilized people, " exceeding opulent in gold and ſilver, as had " been experimented many years ſince by a Spa- " niſh ſhip failing from the *Manilles* to *New* " *Spaine;* inſomuch that the King of *Spain* in " the year 1610, or 1611, for further diſcovery, " and to take poſſeſſion of the ſame, ſent out a " ſhip from *Acapulco* to *Japan;* which by ill

" conduct proved ſucceſsleſs: ſince which time " the proſecution of that diſcovery had been " neglected."

## SUPPLEMENT.

49. *Caroline Iſlands*, A particular chart is conſtructed of theſe iſlands from that of Father Cantova, and the accounts of other miſſionaries, which have been collected in the way of an extract, as a ſupplement to the *Hiſtoire des Navigations aux Terres auſtrales* of the preſident de Broſſes. (Vol. II, page 443, and following.)

50. *Iſland to the ſouth*, between Mindanao and the Moluccas. See, for all this part, *captain Forſter's Voyage to New Guinea*.

M. De La Pérouſe will find, in his collection of charts, a particular one of the ſtraits of Waygew and New Guinea, and a chart of the weſt part of New Guinea, with the iſlands of Arrow, and part of that of Ceram.

Theſe charts may be uſeful, in caſe contrary winds ſhould oblige him to ſail through theſe ſtraits. M. De La Pérouſe may alſo conſult a chart to be found in vol. II, page 310, of the *Hiſtoire des Navigations aux Terres auſtrales*, under the title of *Carte des Iſles des Papous*, copied from the original of Mr. Iſaac Tirion, a Dutchman.

All

All this part agrees with what captain Forſter has publiſhed on it ſince.

51. *Straits to the eaſt and weſt of the Iſland of Timor*, M. DeLa Pérouſe will find, in the account of Dampier's voyages, inſtructions which may ſerve as a guide to his ſhips in ſailing through whichever of theſe ſtraits circumſtances and the wind may induce him to prefer.

In the collection which has been put into his poſſeſſion, there have been introduced particular plans of the paſſages, ſuch as the ſtraits of Alloſs, of Lombock, of Solor, of Sapy, and others among the ſouthern iſlands of the archipelago of Aſia, which are but little frequented by European navigators.

M. De La Pérouſe will take notice, that the ſouthern and eaſtern coaſts of the iſland of Sumbava, or Combava, have not yet been examined.

52. *For the Iſle de France*, and the Cape of Good Hope, he is referred to the *Neptune Oriental* of M. Daprès, and to the inſtructions thereto joined.

53. *Iſlands of Marſeveen & Denia.* Theſe are two little iſlands known by the Dutch, whither they ſend, it is ſaid, for wood; the ſituation of them is nevertheleſs undetermined. Captain Cook regretted not having it in his power to ſearch after theſe iſlands.——(*Second voyage*, vol. II, pages 244 and 246 of the original.)—— They are laid down upon the chart of the South Sea,

Sea, conformably to the position which *Cook's third Voyage* has given them on the general chart; that is to say, *Marseveen*, the most northerly of the two islands, in 40 degrees and a half south latitude, and at two degrees and three quarters to the eastward of the meridian of the Cape of Good Hope; and Denia in 41 degrees of latitude, and three degrees to the eastward of the Cape; but it may be observed, that on Halley's variation chart they are placed at 41 degrees and a half of latitude, and 4 degrees east of the meridian of the Cape.

54. *Cape (or isle) Circumcision*, discovered the first of January, 1739, by M. De Lozier Bouvet.

This navigator took his departure from the Island of Saint Catherine, on the coast of Brazil. He used the chart of Pieter Gooz, who places this island in 333 degrees of longitude, reckoning from the Island of Teneriffe, which corresponds with 46 degrees west of the meridian of Paris. His course corrected, from the Island of Saint Catherine to Cape Circumcision, gives 53 degrees three quarters difference of longitude to the east; and he thence concluded the longitude of this cape to be from 26 to 27 degrees of longitude from Teneriffe; that is to say, from 7 to 8 degrees east of Paris.

But the longitude of the place whence M. Bouvet took his departure, viz. that of S. Catherine, was erroneous by 4 degrees; for this longitude, corrected

corrected according to thoſe which recent obſervations have given for Rio-Janeiro and Buenos Ayres, ought to be 329 degrees from the meridian of Teneriffe (inſtead of 333), or 50 deg. weſt of that of Paris (inſtead of 46). Therefore, if 50 degrees weſt, the longitude of S. Catherine, be ſubtracted from 53 degrees three quarters, the fartheſt point of M. Bouvet's run eaſtward, there will remain three degrees three quarters for the eaſt longitude of Cape Circumciſion, inſtead of from 7 to 8 degrees, which M. Bouvet had computed, and which, in fact, he had a right to compute, agreeably to the chart of Pieter Gooz, who laid down the Iſland of S. Catherine, or the meridian whence he took his departure, four degrees too much to the eaſt.

M. Le Monnier, of the academy of ſciences, has attempted to determine the longitude of Cape Circumciſion by the theory of the variation of the compaſs; and he fixes this longitude between one and two degrees to the eaſt of Paris. See his Diſſertation in anſwer to Mr. Wales, printed at the end of the firſt volume of the tranſlation of the third Voyage of captain Cook.

But as the differences of meridians, deduced from obſervations on the variation of the compaſs, can at beſt be only uncertain approximations, it has been thought adviſeable, to adhere to the difference of

of meridian which refults from the calculations of the courfes of M. Bouvet, from the Iſland of S. Catherine to Cape Circumciſion, without pretending to maintain, however, that the reckoning kept by this navigator is exempt from error. The Cape is conſequently laid down, upon the chart of the South Sea, at three degrees three quarters eaſt from Paris.

According to this poſition, founded on the reaſons deduced as above, it is no longer a matter of ſurpriſe, that if, as there is every reaſon to believe, there be ſuch a place as the Cape (or Iſland) of Circumciſion, it ſhould have eſcaped the reſearches of captains Cook and Furneaux, ſince the firſt, in his track from the weſtward, did not get into the latitude of this cape, which is ſituate upon the parallel of 54° ſouth, till he was only at about eight degrees eaſt of Greenwich, or five degrees two-thirds eaſt of Paris; and the ſecond did not get into the latitude till he was only at ten degrees and a half from Greenwich, or eight from Paris; both of them therefore muſt have run beyond it when they got into its parallel.

LETTER

## LETTER

*From M. Le Maréchal De Caſtries to M. de Condorcet, perpetual Secretary of the Academy of Sciences.*

SIR, *Verſailles, March* 1785.

THE King having come to the reſolution to employ two of his frigates in a voyage, which may at the ſame time realize objects beneficial for his ſervice, and furniſh more extenſive means of perfecting the knowledge and the deſcription of the terreſtrial globe, I could wiſh the academy of ſciences would cauſe to be drawn up a memoir, detailing diſtinctly and at ſome length the different phyſical, aſtronomical, geographical, and other obſervations, which may be thought moſt convenient and important to be made, as well by ſea in the courſe of the voyage, as upon the lands or iſlands which may be touched at. To direct the views of the academy to the plan which it may adopt in this reſpect, I am to inform you, Sir, that the ſhips of his Majeſty will have orders to proceed as far to the north and ſouth as the ſixtieth parallel, and that they will traverſe the entire circumference of the globe, in reſpect to its longitude. The academy, therefore, may include in its ſpeculation nearly the totality of the

known coaſts or iſlands, and the whole extent of the ſurface of the ſea on both ſides, comprehended between the two great maſſes of land which form the continents.

By inviting the academy to engage in a labour which will prove ſo very agreeable to the King, you may aſſure yourſelf, Sir, that the greateſt attention will be paid to ſuch obſervations and experiments as the academy may point out, and that the greateſt exertions will be made to comply entirely with its wiſhes, as far the circumſtances of the voyage will allow the performing of operations of this nature. It will afford pleaſure to his Majeſty to learn, that the erudition of the academy concurs with the love of glory and the zeal which animate the officers of his navy; and he cannot but anticipate the greateſt advantages in the probable advancement of the ſciences, from an expedition of which the principal object is to further their progreſs.

## MEMOIR

*Drawn up by the Academy of Sciences, for the uſe and direction of the learned and ſcientific perſons embarked under the orders of* M. De La Pérouſe.

M. le Maréchal De Caſtries having, by direction of the King, demanded of the academy a *memoir*, which

which might point out ſuch obſervations as it ſhould judge the moſt neceſſary to be made in the intended voyage round the world, undertaken for the progreſs of the ſciences, the academy accordingly has commiſſioned each of its firſt penſionaries of the different claſſes to collect the particular memoirs furniſhed by the various members of his reſpective claſs; and moreover has cauſed theſe memoirs to be arranged and reduced into proper form by four commiſſaries, and is anxious to lay the general reſult as ſoon as poſſible before the miniſter, as a proof of the ardent wiſh it feels to concur, by its zeal and its care, in the execution of an undertaking, the ſucceſs of which will contribute equally to the glory of the monarch, to that of the nation, and to the advancement of the ſciences.

To throw as much order and perſpicuity as poſſible into this ſummary, the academy has judged it proper to aſſemble, under one point of view, the obſervations relative to various branches of ſcience, which reſemble each other in the nature of their object, although cultivated by different claſſes. Such are the obſervations which relate to the ſtudies in which the claſſes of geometry, aſtronomy, and mechanics are engaged. Theſe obſervations may be placed with the more propriety at the head of this memoir, as they are connected with coſmography, and have by that means a more direct

direct relation to the principal object of the voyage to be undertaken by order of his Majesty.

## GEOMETRY, ASTRONOMY, MECHANICS.

ONE of the most interesting researches, which the navigators can be at present employed in making, is that which relates to the ascertaining of the length of the pendulum, vibrating seconds, in different latitudes. The inductions which have hitherto been drawn from this instrument, to determine the variations of gravity, rest on a very limited number of operations, made by different observers, and with different instruments; and this want of uniformity in the operations must have a necessary influence on the certitude of the consequences deduced from the comparison of the results.

It is evident, that a collective number of operations of this kind, performed with care, by the same persons, and with the same instruments, is much wanted; and the academy cannot too earnestly recommend to the navigators, to prosecute this inquiry with all the exactness possible in every place they may put into on their voyage.

The determination of the longitudes will be necessarily one of the principal points, to which the navigators will direct their attention; in order, however, that still greater advantages may be obtained

tained from their researches on this head, the academy recommends to them to preserve the original calculations from the observations of longitude, by the distance of the moon from different stars, as in the event of any astronomer's hereafter correcting the elements which should have served to determine the longitudes in question, this correction may be also employed, in its turn, to rectify the calculations of these same longitudes.

The navigators, being furnished with *ephemerides*, know beforehand the moment of the different eclipses which will happen during the course of their voyage, as well as the places where they will be visible. The academy requests of them not to limit their observations to the instants of the commencement or the end of these eclipses, but to designate the situation of the horns in the most particular manner possible.

The phenomenon of the tides is a subject too nearly allied to navigation not to engage particularly the attention of the voyagers. What appears to be most necessary in this investigation is, to observe with care the double tides of each day. The academy thinks it expedient further to remark, that there are no accurate observations extant relative to the tides onthe west coast of Africa, or on that of America, any more than to those on the coasts of the Moluccas and Philippine Islands.

With regard to any obſervations to be made pertaining to geography, they will be directed conformably to the plan which has been pointed out to the navigators by his Majeſty.

The academy have only to ſubjoin a copy of ſome remarks, which have been drawn up for the purpoſe by M. Buache, its geographic aſſociate.

## PHYSICS.

AMONG the great variety of objects which the ſtudy of phyſics comprehends, it is peculiarly incumbent on the navigators to direct their attention to ſuch as are governed by a regular cauſe, but the intenſity of which is nevertheleſs ſubject to variations, which can only be determined by connected and multiplied obſervations. Of this nature is the variation of the compaſs.

Obſervations on the variations of the needle making a principal part of the means of direction, which will be employed by the navigators, the academy, on this head, judges it ſufficient to recommend to them to obſerve, by the help of the accurate inſtruments with which they will be furniſhed, the diurnal variations of the needle, while they make any ſtay on land.

It has been diſcovered by ſome obſervations firſt made at Breſt, at Cadiz, at Teneriffe, and at Goree, on the coaſt of Africa, and afterwards at Breſt,

Breſt, and at Guadaloupe, that the intenſeneſs of the magnetic force of the needle was viſibly the ſame in theſe different places. The academy wiſhes the navigators to repeat theſe obſervations in a larger extent of country, calculating the magnetic force by the continuance of the oſcillations of a good dipping needle.

The obſervations in queſtion cannot be very correct, unleſs they ſhould be made on ſhore, or in roadſteads. However it will not be amiſs to try them alſo at ſea, in very calm weather, when it is poſſible they may afford reſults ſufficiently exact. It is recommended alſo, as a matter of the greateſt importance, to prove the magnetic force in thoſe points where the inclination is the greateſt, and in thoſe where it is the ſmalleſt.

The navigators are alſo deſired to obſerve, with the utmoſt care, the dip of the needle in all ſuch places as the ſhips may touch at, and even at ſea when the weather will permit it. In this laſt caſe, it will be neceſſary to keep minutes of the uncertainty of the obſervations, and alſo to aſſign to them, as nearly as poſſible, the degree of preciſion.

The academy further invites the navigators, to keep an accurate journal of the riſe or fall of the barometer in the neighbourhood of the quator, at different hours of the day, in order

to diſcover, if poſſible, that quantity of the variations of this inſtrument which is produced by the action of the ſun and moon, this quantity being then at its *maximum*, whilſt the variations produced by the ordinary cauſes are at their *minimum*. It is unneceſſary to add, that theſe delicate obſervations require to be made on land, and with the niceſt precautions.

The navigators may alſo aſcertain the truth of a report, pretty commonly credited, that the mercury riſes an inch higher in the barometer on the weſt coaſt of America than on the eaſt coaſt.

The ſtate of the atmoſphere, and its continual variations, the noticing of which is an object of the higheſt importance in a voyage by ſea, will moreover furniſh the navigators with a detail of meteorological reſearches, intereſting from the frequently oppoſite directions of the upper winds, compared with thoſe which blow near the ſurface of the ſea.

As the navigators carry out with them a certain number of ſmall aeroſtatic balloons, the academy recommends the making uſe of them in order to aſcertain the height where the winds which blow in the lower part of the atmoſphere change their direction, as well as the courſe of thoſe directions. Theſe obſervations require particular attention in all places where the trade winds prevail,

and

and it would be curious and intereſting, to trace the connexion which theſe winds have with thoſe in the upper region of the air.

As the fluid on which the navigators are about to float will attract their attention by the divers currents they will find in it, they are invited to lay before the academy, on their return, an abſtract of their important labours for aſcertaining the currents in different parts of the globe, by comparing the courſe, determined by the ordinary means, with the courſe computed by the obſervation of the longitude and latitude.

Beſides the effects which are in the ordinary courſe of nature, the navigators may find opportunities of obſerving phenomena which only preſent themſelves at intervals, ſuch as certain meteors, and, among others, the aurora borealis and auſtralis. The academy recommends the obſerving the height and amplitude of theſe auroras.

There is a difference of opinion concerning the cauſe which produces water ſpouts: ſome attribute them to electricity, others conſider them as the effect of a whirling motion contracted by a maſs of air *. The navigators would do well

* According to this laſt hypotheſis, the centrifugal force of the particles of air at a diſtance from the axis of rotation muſt diminiſh the preſſure of thoſe which are placed near that axis, force them to let go the water which they held in

well to obſerve attentively all the circumſtances which may conduce to the explication of this ſingular phenomenon.

The navigators will have it in their power to make a number of experiments upon the temperature of the ſea, and upon its ſaltneſs in different latitudes, and at different depths, the ſpecific weight of its waters, with its different degrees of bitterneſs, according to the diſtance more or leſs from the coaſts. The academy alſo wiſhes them not to neglect the compariſon of the temperature at a certain depth, with that of the fluid taken near its ſurface.

It will be proper alſo, that the navigators take all opportunities to obſerve the temperature in any holes dug in the earth, or excavations which they may meet with, as well as that of ſprings and deep pits.

in diſſolution, and occaſion a cloud, the form of which will be nearly that of a revolving ſolid (*ſolide de revolution,*) the ſmall drops of which will quickly diſperſe themſelves by the effect of the centrifugal force.

The preſſure of the air of the atmoſphere not being diminiſhed in the direction of the axis of rotation, the air muſt perpetually renew itſelf, making its way by the two extremities of this axis, and, by the diminution of the preſſure, keep up in the interior a continual precipitation of water, which will laſt as long as the whirling movement, the abundance of which will depend on the ſwiftneſs of the movement, and on the maſs of air which it affects.

Seamen

Seamen have diſtinguiſhed the flat pieces of ice, which cover certain parts of the ſea, from the thick maſſes, which reſemble iſlands, and appear like floating mountains. It is much to be wiſhed, that a well connected examination of the circumſtances relative to theſe two kinds of ice may furniſh room for conjectures concerning their formation.

The light which ſhines ſometimes upon the ſurface of the ſea has been attributed to the appearance of a multitude of ſmall luminous animals; but as this light is viſible in every place where the ſea is put in motion, it will be neceſſary to examine this phenomenon more circumſtantially, if poſſible, than has hitherto been done, in order to diſcover, whether the brightneſs in queſtion may not be traced to ſome other cauſe.

## CHEMISTRY.

THE ſolution of the under recited queſtion would be of uſe to throw light upon the theory of gaſſes: is the air purer, or does it contain more vital air on the ſurface of conſiderable tracks of ſea than elſewhere, as Mr. Ingen-Houſz thought he remarked upon the ſea which waſhes the coaſts of England? and in caſe the experiment be verified, a trial may be made, whether the reſult be the ſame in the open ſea as on the coaſts, where

large quantities of ſea-wrack, and different plants, which cover its ſurface, are met with.

It appears now ſufficiently evident, that ſedative ſalt is found naturally in the water of ſome lakes, ſuch as that of Monte-Rotondo in Italy. This circumſtance is not, perhaps, peculiar to that lake; and it remains ſtill an object of inquiry for the navigators, in caſe they ſhould viſit the interior of any countries, where they may have occaſion to land. If they ſhould happen to meet with any mineral alkali, they are deſired to examine the ſubſtances of which it is compounded, its diſtance with reſpect to the ſea, and other circumſtances of that kind, which may ſerve as a baſis for conjectures relative to the means which nature employs to operate the alkalization of marine ſalt.

Laſtly, the navigators, attentive to all inquiries which may afford light to chemiſtry, in whatever relates to the proceſſes of the arts, will notice, in the countries and places they may touch at, the colours employed for the dyeing of ſtuffs, the ſubſtances from which thoſe colours are extracted, and the means employed for their application.

## ANATOMY.

The attention and the curioſity of thoſe who have undertaken great voyages have naturally been directed towards the different varieties which are found in the human ſpecies. Moſt voyagers have

have contented themſelves with noticing and deſcribing the exterior characters, which ariſe from the colour, the ſtature, the conformation, and other differences of the ſame nature, which are ſuſceptible of being caught with facility even by the eye of an ordinary obſerver.

It is to be wiſhed, that this compariſon might be extended to the interior parts, by anatomical reſearches; with this view, there ſhould be procured the bones of the head and the os hyoides of a dead body of a good ſize, from among ſuch tribes or nations as may appear to differ ſenſibly from thoſe of the temperate regions of Europe in the form of the viſage, or that of the whole head; ſome knowledge might thus be obtained concerning the varieties which are found in man with reſpect to the form of the bones of the head.

To render this knowledge ſtill more intereſting, a compariſon might be made of the proportions of the body of men of different nations with thoſe which painters obſerve for repreſenting *la belle nature*, in a beautiful and comely figure, by dividing the height of the body into eight parts. It would be neceſſary alſo to take it in a right line from the bottom of the heel to the crown of the head.

The dimenſions it will be requiſite to meaſure with the greateſt care, are the length between the ends of the middle fingers of the two arms extended at full length, the length of a ſingle arm,

arm, from the arm-pit to the extremity of the middle finger; the circumference of the head at the height of the brow; that of the thorax or cheſt at the breaſt; and that of the belly at the navel.

Anatomiſts have found, that the number of the lumbar vertebræ has varied ſometimes from five to ſix. It would be expedient to examine, whether the corpſe, in the countries where the men are of an extraordinary height, have ſix lumbar vertebræ.

It will be proper to add to theſe informations, as far as may be poſſible, that of the duration of life, and of the age of puberty in both ſexes.

## ZOOLOGY.

Zoology, in the preſent ſtate of the ſcience, preſents a field of obſervation well adapted to intereſt the navigators by the advantages it may reap from their diſcoveries, for the progreſs of comparative anatomy; yet this object cannot be ſucceſsfully attained, unleſs their deſcriptions ſhall comport with a common method. The academy invites them to make uſe of the method which has been adopted in the *Hiſtoire naturelle générale & particuliére*, as being that which contains the largeſt aſſemblage of deſcriptions in this kind ever yet made upon one uniform plan.

With regard to the deſcription of new ſpecies of birds which may be met with, the *Ornithology* of M. Briſſon may be taken for a model.

The taſte for uncommon ſhells has made moſt voyagers more attentive, in their reſearches on this head, to what may gratify the curioſity of amateurs, than to what may furniſh new lights to the learned. A very material point would be to examine all the ſhells found on one and the ſame coaſt, particularly the predominant ſpecies, and to obſerve the conformation of the animals contained in them: and further to compare, as far as can be done, the petrified ſhells of different latitudes, with the live ſhell fiſh of the adjacent ſeas; and to notice whether the petrified ſhells of Europe have their living analogies in remote ſeas, as ſeems to have been the caſe in ſome inſtances.

## MINERALOGY.

Mineralogy opens a vaſt and fertile field to the obſervations of the voyagers. Theſe obſervations will be enhanced in value in proportion to their mutual connection, as from this circumſtance they will have a tendency to enlighten each other: thus an examination of the ſubſtances or ſtrata which form the two correſponding coaſts of a ſtrait, or of thoſe which compoſe the ſoil of

of an iſland on one ſide, and the continent which it faces on the other, may furniſh cauſe for conjecture whether a ſea ſhore be of ancient or new formation, whether an iſland be near to the mouth of a river, or whether it have made a part of the continent.

It would be further uſeful to inquire in every iſland of any extent, or on ſuch portions of the continent as may be particularly inſpected, at what height above the level of the ſea marine depoſites are found in horizontal beds or ſtrata.

It has been ſuſpected, that mountains compoſed of horizontal and calcareous ſtrata diminiſh in height in proportion as we come nearer to the equator, and that, in that part of the world, the mountains which have this ſtructure of horizontal ſtrata ſcarce riſe above the level of the ſea. This would be an important fact to aſcertain.

In general the aſpect of mountains, eſpecially towards the places where their ſides, cut in a peak, might offer more marked indications of their ſtructure, the compoſition of rocks of granite, which form the nucleus of many of theſe mountains, the products of volcanoes, and above all the baſaltes, &c. are ſo many objects of reſearch, which cannot eſcape the enlightened attention of the navigators.

Cryſ-

Cryſtallizations preſent, to the eyes of naturaliſts, an appearance too attracting to render it neceſſary to adviſe the navigators to collect as great a number of them as they poſſibly can. The academy, however, wiſhes them, to pay a particular attention to certain varieties not found in the King's cabinet, or which do not appear under forms ſufficiently pure, or ſufficiently pronounced. Here follows a liſt of them, in which the nomenclature adopted by M. Daubenton, in the methodical diſtribution of minerals, is made uſe of.

1ſt. *Rock-Cryſtal in two pyramids*, without any indication of an intermediate priſm.

2. *Feld-ſpar* in an oblique priſm, with four ſides or fronts.

3. The *octaedral cuneiform* ponderous ſpar, with acute ſummits.

4. The *fluor ſpar* in regular octaedra.

5. The *calcareous ſpar*, in pointed and very projecting rhomboids.

6. The *calcareous ſpar*, with ſix rhomboidal fronts, and ſix lozenge faces.

7. The *ferruginous pyrites* with twenty triangular faces.

8. *Cobalt mineraliſed with ſulphur.*

To accommodate the voyagers in their ſearch of theſe varieties, the academy will furniſh them with polyedra executed in wood, exactly repreſenting the forms of the cryſtals. The voyagers will

will of courſe procure ſpecimens of ſuch woods and marbles as they ſhall judge to be the moſt curious. It ſhould be obſerved here, that the ſpecimens of this kind in the King's cabinet, are 7 inches long, by 5 wide, as it is neceſſary they ſhould poſſeſs this magnitude, in order to trace accurately the characters of a wood or marble. In the wood, moreover, ſhould be a tranſverſe ſection; in a ſtump 10 inches long, they may eaſily take a round or ſolid piece cut tranſverſely, and a ſmall board or plank, 7 inches long, ſawed longitudinally, by an inciſion which paſſes through the pith.

The voyagers, where they land, may happen to meet with *tourmalines* and other cryſtals, which become electric by ſimple heat. As moſt part of theſe cryſtals are in cluſters adhering to the gangue by one of their extremities, and in different directions, the academy recommends to the travellers to make experiments, to aſcertain whether the ſpecies of poſitive or negative electricity, conſtantly manifeſted by theſe cryſtals at one of their ends, have any relation to the poſition of theſe cryſtals, whether on their *gangue*, or relatively to one another.

## BOTANY.

The various voyages undertaken for a number of years paſt, have enriched botany by the diſcovery

covery of a multitude of plants unknown before; and the powers of nature are ſo inexhauſtible, that we are led to expect a new harveſt from the reſearches of our voyagers; it were to be wiſhed however, that theſe reſearches might be principally directed towards objects of utility, ſuch as the knowledge of plants made uſe of by the inhabitants of the different places where the voyagers may put in, whether for food, for medicine, or in relation to the arts. They might alſo collect ſpecimens, and ſeeds of plants, of which the parts uſed only are commonly ſent us; adding, at the ſame time, complete deſcriptions of them: in this claſs, are almoſt all the woods uſed in dyeing, thoſe which cabinet makers work in for uſe or ornament, and certain roots, barks, and leaves, which are current in the way of trade, and the origin of which ought to ſtimulate our curioſity the more, in proportion as their uſe is become more familiar to us. In general, navigators cannot beſtow too much time and labour in procuring a rich and varied collection of ſeeds of exotic trees and plants, gathered in countries which do not very ſenſibly differ in temperature from that of France; and the productions of which, when naturalized in our climate, may ſerve one day to adorn our plantations, or to multiply our artificial meadows.

A plant

A plant is cultivated in New Zealand, of the *liliaceous* tribe, known by the name of *New Zealand flax*. This flax is made uſe of in that country in the manufacture of cloths, cordage, and different articles of weaving. Captain Cook brought to England a great quantity of the ſeeds of this plant, none of which came to maturity. The tranſporting a few ſets of this plant would be perhaps one of the fineſt preſents the voyagers could make to our climates.

We have in France only the male plant of the paper mulberry tree, *(morus papyrifera, Linnei)* uſed in China to make paper, and in the Iſland of Otaheite to make ſtuffs. We are acquainted with only the female plant of the weeping willow, *(ſalix Babylonica, Linn.)*:— the male of a dicœcious ſpecies of ſtrawberry, called *fragaria Chilenſis*, is alſo unknown to us; it grows naturally in Chili, whence it has been brought by M. Frezier. The fruits of this plant, which, in their native ſoil, grow ſometimes to the ſize of a pullet's egg, are much ſmaller on the ſets which are cultivated in France; this difference may ariſe, in a great meaſure, from our want of the male plant, the abſence of which is but imperfectly ſupplied by the farina of the hautboy, or large ſtrawberry. If, from any particular circumſtance, the voyagers ſhould touch at countries which produce the various

rious plants in queſtion, they ſhould conſider of the beſt means to bring home plants of that ſex, which is wanting in each of the above-mentioned ſpecies.

The academy has joined to this various notes, which have been communicated by many of its members, and in which the voyagers will find the explanation of the proceedings relative to ſome of the objects propoſed in this memoir.

## OBSERVATIONS OF M. BUACHE.

Government having been very aſſiduous in collecting all the geographical information, that could be procured relative to the ſeas through which it is propoſed to ſail in this new voyage, it will be ſufficient to point out here the particular parts of theſe ſeas, where new diſcoveries may be expected to be made.

1ſt. In the ſoutherly part of the South Sea, there are two ſpaces, which are yet but little known, and where there is every reaſon to hope for the diſcovery of new land.

The firſt is the ſpace ſituate to the ſouth of Eaſter and Pitcairn Iſlands, between the 30th and 35th degrees of latitude. Cook's new charts mark a group of iſlands there, ſaid to have been diſcovered by the Spaniards in 1773; and moſt of the navigators who have paſſed to the north of

this ſpace, have met with indications of land. It is moreover obſerved, in the hiſtory of the voyages to the South Sea, publiſhed by Dalrymple, that the pilot Juan Fernandez, in his voyage from Lima to Chili, about the year 1576, kept at a diſtance from the coaſts of America of about 40 degrees, that he might not be obliged to ſtruggle continually againſt adverſe winds; and that after a month's ſailing, he came to a coaſt, which, from its extent, he conceived to be a continent. The country was fertile, and inhabited by a white people, of the ſize of Europeans, who were clothed in a very fine ſtuff; they received the navigators in a friendly manner, and furniſhed them with the productions of the country. Fernandez, propoſing to fit out an armament, and to return to this new country with his companions, kept the ſecret of this diſcovery, but died before the project could be executed, which was ſoon after loſt ſight of. This land of Fernandez, different from the iſland to which that navigator gave his name, may be the ſame as the group of iſlands ſaid to have been diſcovered by the Spaniards in 1773.

The ſecond ſpace which deſerves to be examined more particularly, is that which is compriſed between the New Hebrides and New Guinea. M. De Bougainville and M. De Surville are the only navigators who have paſſed through it,

and

and from the ſituation of ſuch parts of the land as they ſaw, there is every reaſon to believe, that this land is the ſame as the ancient iſlands diſcovered by Mendana in 1567, and known afterwards by the name of Solomon's Iſlands. M. De Surville kept this land in ſight for a hundred and twenty leagues together, and upwards, and always in the latitude aſſigned to Solomon's Iſlands.

As a great part of the ancient diſcoveries of Mendana and of Quiros have been found again, there is every reaſon to believe the reſt will be found, and with this view their memoirs deſerve to be conſulted. The Iſland Taumago of Quiros, will probably be found again, with thoſe of Chicayana, Guaytopo, Pilen, Naupau, and others near it, ſince it was on quitting that iſland, or about ten days after, that Quiros obtained ſight of the Tierra del Eſpritu Santo, which at preſent is known under the name of the *New Hebrides*.

2ndly. The northerly part of the Pacific Ocean, leſs known ſtill than the ſoutherly part, may give occaſion to a yet greater number of diſcoveries. There is firſt to the ſouth of the Marianne Iſlands, or Ladrones, between the 5th and 10th degrees of north latitude, a chain of iſlands divided into ſeveral cluſters, which extends more than 25 degrees of longitude: theſe iſlands are known only by a vague deſcription, and a chart con-

ſtructed upon the bare report of the inhabitants of ſome of theſe iſlands, who were caſt by a tempeſt upon the coaſt of the Iſland of Guam, and whom father Cantova examined concerning the ſituation of theſe iſlands; they have eſcaped the obſervations of navigators, becauſe in their run they directed their courſe towards the Iſland of Guam, which is more to the north.

That part of this ocean which is to the north-eaſt of the Ladrones, or to the eaſt of Japan, is equally unknown; we have only indications of there being a good number of iſlands of ſome importance, and among others, a pretty conſiderable iſland is ſaid to be ſituate at about three hundred leagues to the eaſt of Japan, to which its inhabitants reſort for the purpoſes of trade.

The land of Jeſſo, to the north of Japan, does not appear to be the ſame as the Ruſſians and Engliſh have repreſented it. The information which Cook's laſt voyage gives us reſpecting the eaſtern coaſt of Japan leads us to think, that the chart of the diſcovery of Jeſſo, made by the Dutch veſſel the Kaſtricum, is tolerably correct; but the Dutch have only diſcovered part of this land, which may therefore be worthy of further inveſtigation.

3dly. Upon the weſt coaſt of America, to the north of California, it is more than probable that the River of Martin d'Aguilar, in 43 degrees of latitude,

tude, will be again discovered. Martin d'Aguilar was one of the pilots of Sebastian Viscaino, whose voyage on this coast is one of the most interesting that has been made.

It is much to be wished, that some information could be obtained of the people in the interior of the countries to the north of California; and, upon this point, *Carver's Travels* may be consulted, and even the letter of Admiral *De Fuente*, however it may have been cried down. It is also desirable that, in returning home, the navigators may explore the Islands of Denia and Marseeven, situate to the south of the Cape of Good Hope, and whither the Dutch send to fetch wood, &c.

If it be intended to sail towards the south pole, with a view to any investigations in natural history, it would be proper to steer to the south-west of the Cape of Good Hope, and of Cape Horn.

In the first case, Cape Circumcision might be found again, in the longitude that M. Le Monnier has assigned to it, that is, between three and four degrees of longitude to the east of the meridian of Paris; this position is indicated by other observations independent of those of M. Le Monnier. In the latter case, the islands and harbour where Drake landed might again be brought into notice.

The navigators are alſo deſired to notice the names which the inhabitants themſelves give to the iſlands they may diſcover, and endeavour to procure a vocabulary of the different names given by thoſe iſlanders to the moſt remarkable objects, and thoſe which are of moſt neceſſary uſe.

## EXAMINATION OF THE NATURE OF THE AIR.

The analyſis of the atmoſpheric air, and its degree of ſalubrity, in different ſhores and latitudes, and at different elevations, is an object ſo much the more intereſting, as there have hitherto been no accurate experiments on this ſubject, and as we are ignorant whether the nature and compoſition of the air be the ſame in different parts of the world and at different elevations. The teſt of nitrous air appears to be the moſt ſimple and the moſt ſure. M Lavoiſier, in a memoir, printed in the collection of 1782, has ſhewn, that, provided more nitrous air be employed than is neceſſary for ſaturation, it will be always eaſy to aſcertain, by a ſimple calculation, the quantity of vital air contained in a given quantity of atmoſpherical air.

A principal requiſite in experiments of this kind is the procuring of nitrous air as nearly as poſſible pure. That which is produced from the ſolution of mercury by the nitrous acid is the pureſt of all; but for want of it, that which is obtained

tained by means of iron may be uſed without inconvenience.

The firſt thing to be done is to introduce two hundred parts of nitrous air into the *eudiometer*, then add a hundred parts of the air on which the experiment is to be made, and obſerve the number of parts which remain after abſorption. The number obtained by ſubtracting the remainder from the ſum of the two airs, multiplying this reſult by forty, and dividing the product by a hundred and nine, will expreſs the quantity of vital air contained in a hundred parts of the air examined.

It will be proper to keep a memorandum of the height of the barometer and thermometer.

## SPECIFIC GRAVITY OF THE AIR.

It being a part of the plan of the navigators to take on board the frigates an air-pump, we think it would be adviſable to add to it a globe of glaſs, capable of being adapted to it, which might thus be exhauſted of the air, and afterwards filled with it. By noting the difference of weight between this globe or matraſs when empty and when filled with air, the ſpecific gravity of the atmoſphere, in different latitudes, will be obtained. It is of particular moment to obſerve with the greateſt care the height of the barometer and thermometer, during each of theſe operations.

To make experiments of this nature, the navigators are ſuppoſed to have in their poſſeſſion a very exact pair of ſcales, which will give the weight with nicety and preciſion to half a grain.

## EXAMINATION OF WATERS.

The abbé Chappe, in his voyage to California, determined the ſpecific gravity of ſea water, in a great variety of places, and thence have reſulted a number of intereſting deductions with reſpect to the degree of ſaltneſs which it poſſeſſes. M. De Caſſini publiſhed the reſult of theſe experiments from the notes which he found in the manuſcripts of the abbé Chappe. It is of importance to purſue theſe experiments, as an opportunity now offers for determining, ſo to ſpeak, in one ſingle voyage, the degree of ſaltneſs found in almoſt every ſea.

The navigators will require for this purpoſe a very accurate hydrometer, conſtructed upon the principles of Farenheit, and ſimilar to that which M. Lavoiſier directed to be made for the abbé Chappe. The ſame inſtrument may be employed for aſcertaining the ſpecific gravity of the water of lakes, rivers, and ſprings; and by joining thereunto ſome experiments made with reagents, an idea may be formed both of the quality, and of the quantity of ſalts contained in thoſe waters.

When

When after the experiments by regeants and ſpecific gravity, the water ſhall appear to contain any thing remarkable, a portion of it may be evaporated, and the reſiduum laid by, carefully labelled, in order to be examined on the return of the voyagers.

## QUESTIONS

*Propoſed by the Society of Medicine to the gentlemen who are to accompany M. De La Pérouſe on the intended voyage, read in the ſitting of the* 31ſt *of May*, 1785.

Every thing which relates to natural hiſtory and to natural philoſophy, in the voyage about to be undertaken round the world, muſt neceſſarily intereſt the ſcience of medicine, and contribute to its advancement; but the ſociety of medicine rather wiſhes to confine its views to the objects which particularly concern the ſcience. As the queſtions to be propoſed are pretty numerous, we ſhall preſent them here under titles which will form ſo many heads of medical enquiry.

### § I. ANATOMY, PHYSIOLOGY.

*Structure of the human body, and the functions of its organs.*

Moſt voyagers have written upon the general form and ſtructure of the bodies of the inhabitants obſerved by them in different countries; their deſcriptions,

ſcriptions, however, are now well known to be filled with exaggeration and errors. We have every reaſon to expect greater accuracy from the ſcientific gentlemen who accompany M. De La Pérouſe, and they are requeſted to notice the following objects with particular attention.

1ſt. The ordinary ſtructure of men and women; the great and the ſmall diameter of the head; the length of the ſuperior and inferior extremities meaſured from the joint of the arm to the extremity of the middle finger; from the thigh to the extremity of the great or ſecond toe; the circumference of the pelvis; the width of the cheſt; that of the ſhoulders; the height of the vertebral column, meaſured from the firſt vertebra of the neck to the ſacrum: theſe proportions are taken according to the diviſions of painters.

2ndly. The form and colour of the ſkin and its different regions; the ſame with reſpect to the hair and nails.

3dly. The particular form of the head or cranium, that of the face, and eſpecially of the forehead, of the noſe, eyes, ears, mouth, chin, teeth, tongue, with the hair of the head and of the beard.

4thly. Theſe different parts of the body are thoſe which the natives are accuſtomed to deform by holes, inciſions, and by extraneous ſubſtances which they inſert into them, as well as by oils,

and

and by colours prepared with oehres or vegetable juices.

It may be uſeful to deſcribe minutely the proceſſes by which the ſavages imprint theſe indelible marks in their ſkin; the ſubſtances they make uſe of for this purpoſe; how they prepare and apply them; the age and the circumſtances in which they practice this operation, and above all, the alterations, local deformities, or other effects produced thereby upon each individual.

5thly. The defect, the exceſs, or the different conformation of the parts of the body, as the elongation or flattening of the forehead, the dilatation or narrowing of the noſe, the extent of the mouth, and of the ears, whether theſe differences be uniformly the effect of the natural organization, or produced by particular practices. Dampier affirms, that the inhabitants of Van Diemen's Land are deficient in two of their teeth: Is this a natural or artificial defect? It is thus that the double mouth of the inhabitants of America, in the vicinity of Prince William's Sound, obſerved by captain Cook's men, is the effect of a tranſverſe inciſion made beneath the lower lip. The peculiarities of the apron in women, the prodigious lengthening of the ſcrotum, and the brown ſpot upon the backs of children, obſerved in many parts of America—do they really exiſt, and are they the production of nature?

We

We yet know very little relative to the uſing of the two hands indifferently. The queſtion which regards ambidexterity, or the preference we give to one hand over the other, has not yet ſufficiently occupied the attention of naturaliſts; it is therefore important to examine whether the people which may be viſited make a like uſe of both their hands in working, or whether they employ one in preference, and whether the pre-eminence of the right, among poliſhed nations, be not the effect of prejudice. It would be alſo of uſe to diſcover whether, among the people who are accuſtomed to go naked, there are not ſome who can uſe their feet with as much dexterity as their hands, and for the ſame purpoſes.

6thly. We have yet had no well-eſtabliſhed accounts reſpecting the comparative ſtrength of different men: it would be well to make experiments on the burdens carried by the inhabitants of thoſe countries where nature has not been debilitated by effeminacy and the various cuſtoms admitted into poliſhed nations, together with the ſpace which they can paſs in a limited time, either by walking or by running.

7thly. The nature of the ſenſe of ſight, of hearing, of ſmelling, may furniſh ſome important facts with reſpect to the vigour or the imbecillity of their organs. Much has been ſaid of the acuteneſs of the ſenſe of ſmelling in ſavage tribes; it would

would be curious to verify this matter, and to diſcover whether in the individual, in whom this refined faculty exiſts, it have not a tendency to impair the energy of ſome other ſenſe.

8thly. The voice, the greater or leſs diſtinctneſs of articulation, are important ſubjects for examination, as well as the expreſſions of joy, of pleaſure, and of pain.

9thly. The age of puberty in men and women. Whether the latter be in all climates ſubject to the periodical evacuation? Whether its quantity be influenced by climate, and what is the period of its ceſſation? What is their condition during pregnancy? Are they delivered with eaſe or difficulty? Do they ſtand in need of help in this operation? Do they tie the umbilical cord? Is this operation performed before or after the coming away of the placenta? Do they ſwaddle their children, or what means do they adopt for ſupplying the place of ſwaddling clothes? Have they any particular practice in the treatment of new-born children, ſuch as moulding or ſhaping the head, and waſhing them? Do the mothers themſelves ſuckle them, and to what age? And are there more males than females born?

10thly. What proportion of children die from birth to the age of puberty, and what in general is the length of the life of men in the different climates?

11thly.

11thly. The quickneſs or ſlowneſs of the pulſe compared to that of Europeans, which is nearly that of ſixty-five or ſeventy pulſations in a minute.

12thly. The affinity which the colour of the ſkin has to that of the humours. The ſpermatic fluid of men more or leſs tawny, the cerebral pulp, and the blood, have they any correſpondence with the colour of their ſkin? Does this colour vary among the blacks in any individuals, ſuch as the white negroes, the pale, wan negroes, &c.? Is this variation produced by diſeaſe, or from a conſtitution changed by the influence of climate, as is thought to be the caſe with regard to negroes tranſplanted into cold countries?

13thly. Are there in America men to be found whoſe breaſts contain milk in ſufficient quantity to ſuckle children, as has been reported? What opinion is to be formed of the hermaphrodites of Louiſiana? Does the ſavage life render the inclination of the ſexes periodical among many tribes? Is it true that certain natives of America cauſe their virile member to be ſtung with inſects, in order to excite in it a conſiderable ſwelling.

14thly. We ſhall take no notice here of giants, pigmies, men with tails, &c. becauſe theſe pretended extravagancies of nature were never ſeen, unleſs by prejudiced or ignorant voyagers, or becauſe they never exiſted unleſs in their wild imaginations.

§ II.

## § II. HYGIEINE.

*Of the air, water, aliments, habitations, cloathing, exercises, and the passions, as far as they concern the health of men.*

THIS part of medicine presents the largest field of observation to the voyagers; but it is one of those concerning which there are fewer questions to propose, because in general these things of course come under their notice. The following articles, however, claim particular consideration:

1st. The nature of the air in the different places tried by the eudiometer; its highest and lowest temperature in the sun and shade; its dryness, humidity, weight, elasticity, and its electrical state, measured by the different electrometers, and especially by that of M. De Saussure; the division of the seasons; the prevailing winds, or their variations; the nature of meteors, as snow, hail, rain, thunder, hurricanes, sea and land waterspouts; the change of the air by vapours, or by the emanations from vegetables, comparing, according to the experiments of Ingenhousz, the fluids which exhale from their different parts exposed to the shade or to the sun, particularly of those which are said to be noxious to animals or plants in their neighbourhood.

2ndly. It will be of advantage to analyſe the ſea water at different depths, nearer or further from the ſhore; alſo freſh water and brackiſh, with the nature of the ſalts they contain. For this purpoſe, the principal re-agents pointed out by Bergman are recommended, and eſpecially evaporation; the water drunk by the iſlanders, and the different uſes they apply it to; mineral waters, cold or hot; factitious beverages, ſweet or fermented; the manner of preparing them; the vegetable or animal ſubſtances of which they are compoſed; their effects; and, above all, of the *kava*, a liquor prepared from a root, in the iſlands of the South Sea, to which Anderſon attributes a ſtupifying quality, and the property of drying up the fluids, ſo as to occaſion the ſkin to fall off in ſcales from thoſe who drink of it to exceſs.

3dly. The food. Do the inhabitants of the different countries which may be viſited, ſupport themſelves with vegetable or animal diet, or with both? Do they ſeaſon their victuals? What preparatory operations does their food undergo? Do they make regular meals, and do they eat ſparingly or in abundance? Do they uſe ſalt with their victuals? What compariſon may be made between the roots, fruits, &c. which ſerve them for food, and our vegetables? What are the farinaceous ſubſtances they uſe? What ſpecies of fern is that containing a gelatinous ſubſtance, which is uſed

for food by the inhabitants of New Zealand? Have they no aliment in the form of powder, upon which they feed during their voyages? From what plant is it procured, and what proceſs does it undergo in the preparation? Are there not vegetable ſubſtances to be found by diligent ſearch, unknown to the natives, and which may be uſed for food? May there not be ſome vegetables from which a ſaccharine ſubſtance might be obtained, analagous to that of the ſugar-cane, and with more facility and leſs expence?

4thly. The habitations, their form, extent, openings, expoſure, the ſoil on which they are ſituate, the materials of which they are conſtructed, the nature of the ſhelter they afford, their dryneſs or humidity; whether the inhabitants retire within them during the night, and throughout the whole year, or only at certain ſeaſons; how much of the day they ſpend in them; in what number they collect together in them, with regard to the ſpace occupied; whether they ſleep on beds, on mats, or upon the ground; and whether there be not ſome iſlanders who have no habitation, and who live always in the open air: the forms and materials of their clothing, &c. All theſe ſhould be objects of inquiry.

5thly. The occupations of the two ſexes, their labours, exerciſes; in what reſpect they preſerve or impair the health of the inhabitants.

6thly. The paſſions, manners, prevailing character of each nation; the practices made uſe of to promote the ſecretion of different humours, as that of chewing tobacco, betel, or any analogous ſubſtance, or ſmoking, uſing frictions, unctions, baths cold or hot, vapours dry or moiſt, with the influence of theſe various uſages, and particularly of the oily unctions and of tatooing, upon the perſpiration.

## § III. OF DISEASES.

THE diſeaſes peculiar to the climates which will be viſited, may furniſh important obſervations. Cook and Anderſon have noticed, although with but few particulars, thoſe which prevailed in the Friendly and Society Iſlands. They obſerved in the inhabitants of the former a blindneſs which was owing to an imperfection of the cornea; tetters, and other herpetic eruptions, which leave ſpots upon the ſkin, and affect one half of the natives; large dangerous ulcers, of a corroſive nature, often occaſioning the loſs of the noſe; indurated ſwellings, ſo as to be without feeling, of the arms and legs; and tumours of the teſticles. Anderſon, from whom theſe obſervation are quoted, has pointed out five or ſix diſorders he ſaw at Otaheite; but has only ſpoken at large of the dropſy, the *ſefaï*, or indurated ſwelling, and the venereal diſeaſe, which the crew of capt. Cook carried thither in his two former viſits.

It

It appears that the diſorders to which the iſlanders are moſt liable are thoſe of the ſkin.

Although Anderſon ſaw no ſick in their beds, and though the iſlanders of the South Sea for the moſt part neglect to treat their diſorders in any regular way, the navigators are requeſted to attend carefully to the following particulars, ſeveral of which relate to diſorders conſidered as new in our climates.

1ſt. Are there any acute diſeaſes or fevers among theſe iſlanders? Anderſon has only mentioned chronical ones. Among the former are there any eruptive diſorders? Does the ſmall-pox exiſt there? What are the circumſtances of its progreſs, and what ravages does it make? Do the people, who may be viſited, know any thing of inoculation? Is there any climate where this diſeaſe is endemical? Are the people attacked with contagious or epidemical diſtempers? Have they experienced the ſcourge of the plague? Are the children ſubject to the tetanus, and to the croup? An accurate deſcription of all the diſorders of this claſs is requeſted, and more eſpecially what relates to their criſis, and what affinity they bear in their progreſs and nature to the ſame maladies in our climates.

2dly. Among the chronic diſorders which prevail in the South Sea, thoſe of the ſkin appear to be the moſt common. To what may the great number

of tetters and ulcers, obſerved by Anderſon, in theſe iſlands, be attributed? Are they owing to the oily unctions, or to the ſtinging of inſects? Do theſe engender in them frequently, as is commonly the caſe in ulcers of warm climates? Are not the ulcers which corrode the face, and deſtroy the noſe, cancerous? Are the indurated ſwellings of the arms and legs, deſcribed by Cook, to be imputed to this diſtemper? Are the inhabitants ſubject to the leproſy, to the morbus pediculoſus, and to the dracunculus, or Guinea worm?

3dly. Does the venereal diſeaſe exiſt in the countries viſited, whether continent or iſlands? Does it appear to be natural, or to have been imported thither? What remedies do they make uſe of to cure it? In what ſtate is it in the Friendly and Society Iſlands, whither it was carried by Cook in his firſt voyage? By what ſymptoms does it manifeſt itſelf? Is it true that the iſlanders are ſtrangers to the gonorrhœa?

4thly. Is the ſcurvy endemical in any particular countries? What are its ſymptoms in the warm or cold countries? What ravages does it make, and what remedies do they apply to it?

5thly. Are the rickets, and the deformities which take their riſe from this diſeaſe, known in the countries to be explored? Are nervous, convulſive, or ſpaſmodic diſorders, and eſpecially the epilepſy, to be found there? Are the children ſubject

ject to illneſs, and particularly convulſions, during dentition?

6thly. Are there certain men or women particularly appointed to take care of the ſick? What remedies and what methods of treatment do they adopt? Are there any hoſpitals, or do they ſeparate certain claſſes of diſeaſed perſons from ſociety?

## § IV. OF THE MATERIA MEDICA.

IT appears, according to the relation of Anderſon, that the prieſts are the only inhabitants of the South Sea Iſlands who take upon themſelves the charge of curing the ſick, and that for this purpoſe they make uſe of certain juices of herbs, but he gives no deſcription of theſe plants, or of the other preſervatives to which they have recourſe againſt diſorders of the ſkin, ulcers, ſwellings, dropſies, &c. The women recover themſelves from the effects of child-birth, according to this naturaliſt, by ſitting upon warm ſtones, wrapped up in two pieces of cloth, between which they lay a ſpecies of muſtard; this remedy makes them ſweat profuſely, it does not ſucceed however with venereal patients. Theſe people therefore have but an imperfect knowledge of the virtues contained in the remedies which nature offers them; they are even unacquainted with any thing which can operate as an emetic. It remains for the navigators therefore to make experiments on the qua-

lities of plants, to aſcertain their taſte, and obtain knowledge relative to their other phyſical properties, not only in the iſlands of the South Sea, but in all other countries where they may land. For this purpoſe the following particulars are recommended to their attention.

1ſt. Examine the taſte, the ſmell of the roots, woods, barks, leaves, flowers, fruits, and ſeeds of the vegetables in the countries but little known, and compare them with the different vegetable ſubſtances employed in Europe as medicines, and make ſimilar experiments upon the ſap which exudes from trees, as well as upon animal ſubſtances.

2dly. Obſerve the different remedies which are applied in hot countries to the diſeaſes which afflict the inhabitants, and deſcribe even the ſuperſtitious ceremonies which are often the only medicine known amongſt barbarous nations.

3dly. Try the effect of decoctions of ſome of the emollient, aromatic, and acrid plants, in thoſe diſorders of the ſkin to which the inhabitants are liable.

4thly. Let mercury be applied in friction in caſes of the venereal diſeaſe, among the inhabitants of the South Sea Iſlands, and let them be aſſiſted with the means to rid themſelves of this cruel ſcourge; above all obſerve the effects of mercury upon theſe people.

5thly. Endeavour to discover whether some sudorific vegetables of these islands may not have an anti-venereal virtue, such as, particularly, the *lobelia syphillitica (rapuntium Americanum flore dilutè cæruleo)*, and the *celastrus inermis*, of Linneus.

6thly. Examine whether there do not exist in some of the hot countries, plants analogous to the cinchona, simarouba, ipecacuanha, camphor, opium, &c. and whether the islands contain any emetic or purgative plants likely to be of use.

7thly. Get information, and make observations on the properties of the anacardium, which in Louisiana is reputed to be a cure for insanity; on the virtue of the *telephium*, and of the *gramen marinum*, or sea herb, which the Greenlanders prefer to scurvy-grass for the cure of the scurvy; upon the cortex winteranus, the root of Belaage*, of Columbo†, and that of Juan Lopez‡.

8thly. Endeavour to learn which are the tribes that poison their arrows, what substances they use for this purpose; the nature, the description of the plants from which they extract the venomous juice, and especially the remedies they administer to prevent the deleterious effects of it: inform yourselves also whether salt and sugar may

* At Madagascar.
† Island of Ceylon.
‡ Coast of Mosambique.

be conſidered as an antidote againſt the wounds made by theſe arrows, as there is ſome reaſon to think, from the experiments of Condamine.

9thly. Take notice of the animals, and eſpecially ſerpents and venomous fiſh, and endeavour to find out the cauſe on which this dangerous property depends in the latter, and if there be any means by which it may be prevented.

10thly. Inform yourſelves carefully of the remedies, internal or external, which are eſteemed ſpecifics in the diſeaſes of the different people; deſcribe the nature of theſe ſpecifics, the manner of preparing and taking them, their doſes, their effects, and the period of the diſeaſe during which they are taken or applied: it is by this means we have learned from the Peruvians the valuable properties of the cinchona.

11thly. Collect in a particular herbal, and diſtinct from that of botany, ſuch plants, or parts of plants, as are uſed for aliments, remedies, or poiſons, in the various countries which may be explored.

## § V. SURGERY.

### *Of diſeaſes and chirurgical operations.*

ANDERSON remarks, that ſurgery has made a greater progreſs among the iſlanders than medi-

cine,

cine, as muſt neceſſarily be the caſe among a people ſubject to few diſeaſes, but liable, in common with all men, to external accidents. Captain Cook makes mention of a woman of Leſooga, in New Zealand, who performed the office of an oculiſt: ſhe dreſſed the eyes of a child with two wooden probes, which ſhe rubbed upon their membranes, even till the blood ran. It appears that the natives of the Friendly Iſlands have no great dread of wounds, ſince they inflict them on their own heads voluntarily to expreſs their grief; they alſo cut off the little finger with an axe made of ſtone when they are ill, and one of the joints of the ſame finger when their chiefs are ſo. Many of theſe iſlanders are obſerved to have a little finger wanting on one hand, or even on both. This practice is, doubtleſs, allied to their ſuperſtition: they alſo make inciſions in different parts of the body, and eſpecially in the legs. Anderſon further remarks, that they are very bad ſurgeons, as he ſaw an arm awkwardly amputated, and a diſlocation of the ſame part, which was not reduced many months afterwards. Nevertheleſs, theſe iſlanders, according to him, can judge when wounds are mortal, and know how to apply ſplints to fractured limbs: they can moreover introduce into wounds where there are ſplintered bones, a piece of wood to ſupply the place of bones brought away; and Anderſon ſaw cicatrices from the

the thruſt of a pike, which evinced the cure of wounds that would have been thought mortal in Europe. Laſtly, the claſs of men in Otaheite, that are called *tahoua*, make an inciſion on the prepuce of infants, which operation they perform at one ſtroke with the tooth of a ſhark; they cure the ſwelling which ſupervenes, by applying hot ſtones to the part. The facts which appear important to be collected relative to this part of ſurgery, may be reduced to the following:

1ſt. Are diſlocations, fractures, ruptures, and chirurgical maladies in general, very common among people who live in a ſtate of nature?

2dly. What means do they employ for curing theſe different diſorders?

3dly. Have they particular inſtruments? Of what form are they, of what materials, and how uſed? Let ſome be purchaſed, and a collection made of them.

4thly. Are circumciſion and infibulation practiſed? If ſo, how are the operations performed?

5thly. Are there any men or women to whom the ſeparate care is delegated of treating particular chirurgical diſorders, as thoſe of the eyes, the ears, the teeth, the ſkin, child-bearing?

6thly. What are the form and nature of the weapons they make uſe of in their battles; thoſe of the

the wounds they inflict, and the manner in which they treat and cure them?

At the Louvre, the 31ſt of May, 1785.

(Signed) MAUDUYT, VICQ-D'AZYR, DE FOURCROY, & THOURET.

I certify the preſent copy to be conformable to the original lodged in the office of the ſecretary of the ſociety of medicine, from which I received directions to forward it with all ſpeed to the Miniſter of Marine.

(Signed) VICQ-D'AZYR, Perpetual Secretary.

## SKETCH

*Of experiments to be made for preſerving the water on ſhip-board from corruption, communicated to M. De La Péroufe, captain of the navy, about to make a voyage round the world, by M. L'Abbé Teſſier, of the academy of ſciences, and of the ſociety of medicine.*

One of the greateſt inconveniences attending navigation is the corruption of freſh water in long voyages. Different means have been propoſed for avoiding this evil: the object of ſome of them has been to render ſea water potable, which would undoubtedly be advantageous under many circumſtances, but the proceſſes have been found to be expenſive and troubleſome: others conſiſted in preparations which tended to prevent the corruption

ruption of the freſh water; this laſt appears to be the moſt ſimple, becauſe it neither requires labour during the voyage, nor the conveyance of fuel.

I do not examine whether many of the experiments formerly propoſed relative to this uſeful object have been made with that ſcrupulous attention, which a diſintereſted and ſincere deſire to aſcertain a point ſo valuable to mankind ought to preſcribe. The voyage of M. De La Pérouſe round the world offers the moſt favourable opportunity for making experiments of this kind. He will neceſſarily ſail through every latitude; the love of truth and ſcience animates him; his own knowledge and experience will be united to thoſe of the natural philoſophers who accompany him; the reſult, which he will preſent on his return, may therefore be relied on.

It is with this view, that I have here laid down a ſketch of experiments, ſimple and complicated, ſome of which it appears to me have not yet been tried.

From all that I have peruſed in the writings of navigators, and from converſations with a great many naval officers, it appears, that the water taken on ſhip-board corrupts only becauſe inſects form in it, which, in certain degrees of latitude, where the temperature is very warm, hatch, die, and putrify. Theſe inſects owe their birth

to eggs depoſited either in the water before it is ſhipped, or in the caſks containing it. Water that is taken on board during winter, or that is drawn from ſprings, is leſs ſuſceptible of corruption than that which is ſhipped in ſummer, or than that taken from rivers; theſe differences depend on the inſects which depoſit their eggs always in ſummer, and in certain waters, rather than in others; it is known alſo, that wood often ſerves as a nidus to the eggs of theſe animals; it is poſſible, therefore, that theſe eggs may exiſt in the wood of which the caſks are made. I conſider it of importance to be aſſured how far this may be a fact.

In conſequence, I am of opinion firſt, that the water alone ſhould undergo ſome preparation; next, that the caſks alone ſhould undergo one; and laſtly, that the water and the caſks jointly ſhould undergo a preparation. It will be diſcovered by theſe means, whether the eggs are all in the water, or all in the caſks; perhaps they penetrate into theſe latter only during the voyage. The following experiments will further determine this, and point out the beſt preſervative. The firſt care is to be ſatisfied of the ſtate of the freſh water when embarked, by examining its weight with the hydroſtatical balance, its temperature with the thermometer, its purity or diviſibility, by the facility with which it boils dry pulſe and

and diſſolves ſoap: the ſpring or the river whence the water is taken ſhould be noted down, as well as the hour of the day, and the ſeaſon of the year. The individual hydroſtatical balance and thermometer, employed in this experiment, ſhould be thoſe taken on board, as well as parcels of the ſame pulſe, and of the ſame ſoap to be uſed in other ſimilar experiments. While at ſea, chooſe twenty hogſheads, or caſks, each of equal capacity, and in all reſpects like thoſe which will contain the reſt of the freſh water: this number of caſks, for experiments, ought not to excite ſurprize or alarm, when it is conſidered, that the water preſerved in them will all be drunk in the courſe of the run; that in any caſe it will not be inferior in quality to the ordinary ſhipped water, and that it may be deducted from the quantity of caſks propoſed to be carried out. The caſks for the experiments muſt be made of the ſame wood, and hooped the ſame; they muſt be placed in the ſame part of the ſhip as the others are, and without any particular precaution.

*Firſt experiment.* The water with which two of the caſks are filled, muſt be previouſly expoſed to the fire, where it muſt be boiled for half an hour; there are no inſects eggs can bear this heat without periſhing. This method, ſimple as it is, has never been made uſe of as far as I know;

know; the ſailors are in the practice of partially doing this, by ſometimes throwing red hot balls into the water which they take at certain watering places. Upon one of the caſks may be put No. 1. E. B. and upon the other No. 2. E. B. that is to ſay, *eau bouillie* (boiled water).

*Second experiment.* The inſide of two caſks muſt be impregnated with quick lime, diſſolved in boiling water, and this operation repeated two or three times; for this purpoſe, the bruſh uſed muſt be preſſed ſtrongly againſt the joints, in order that the lime water may inſinuate itſelf the further into them: it will be eaſily conceived, that this ſoaking can only take place, when the caſks have not both their bottoms in, and that it is neceſſary to impregnate in the ſame manner the inner ſide of the ſtaves which form the ſecond head before it is replaced. The barrels muſt then be filled with water, which has not been boiled. Theſe may be marked on one, No. 1. E. C. S. and on the other, No. 2. E. C. S. that is to ſay, *eau chaulée ſimplement* (ſimple limed water).

*Third experiment.* This will conſiſt in combining both the former: two barrels, with their inner ſurfaces previouſly impregnated with lime, filled with boiled water, as in the preceding caſe. Upon one put No. 1. E. B. C. and on the other, No. 2. E. B. C. that is to ſay, *eau bouillie, chaulée*, (boiled water limed).

*Fourth experiment.* Two other barrels, being equally impregnated with lime, are to be filled with boiled water, to which add ſpirit of vitriol, in the proportion of four ounces to two hundred and fifty pints of water, Paris meaſure. On one put No. 1. E. B. C. V. and on the other, No. 2. E. B. C. V. that is to ſay, *eau bouillie, chaulée, vitrioliſée* (boiled water, limed, and vitriolated).

*Fifth experiment.* It will be ſufficient to put into two other barrels, freſh water, without having made it boil, mixing four ounces of oil of vitriol, with two hundred and fifty pints of water; neither ſhould theſe barrels have been made to imbibe the lime. Upon one put No. 1. E. S. V. and upon the other, No. 2. E. S. V. that is to ſay, *eau ſimple vitrioliſée* (ſimple vitriolated water).

*Sixth experiment.* Two barrels will contain boiled water, to which muſt be added four ounces of ſpirit of vitriol, without any other preparation. Upon one put No. 1. E. B. V. and upon the other, No. 2. E. B. V. that is to ſay, *eau bouillie, vitrioliſée*, (boiled water, vitriolated).

*Seventh experiment.* Two caſks are to be covered over on their outſides with tar, which are to be filled with boiled water, without their having been impregnated with lime within. Upon the one, put No. 1. E. B. G. E. and upon the other, No. 2. E. B. G. E. that is to ſay,

*eau*

*eau bouillie, goudronnée extérieurement*, (boiled water, tarred on the outside).

*Eighth experiment.* Two casks are to be impregnated with lime, as in the second, third, and fourth experiments, filled with boiled water, and also tarred on the outside. Upon one put No. 1. E. B. C. G. and upon the other, No. 2. E. B. C. G. that is to say, *eau bouillie, chaulée, goudronnée*, (boiled water, limed, and tarred).

*Ninth experiment.* Only tar two casks on the outside, and let them be filled with simple water, which has not been boiled. Upon one put No. 1. E. S. G. E. and upon the other, No. 2. E. S. G. E. that is to say, *eau simple, goudronnée extérieurement*, (simple water, tarred on the outside).

*Tenth experiment.* Fill two casks with simple water, without making them undergo any preparation either within or without. This experiment is a standard of comparison for all the others.

It is to M. De La Peyre, surgeon in the navy, that the idea of impregnating the casks internally with lime belongs. I took the hint of the process from him, which I have varied and corrected, as much as I thought necessary. The addition of the spirit of vitriol to the water has been known a long time.

It is necessary to observe, not to boil the water before the casks are ready to receive it, and

then to fill them as ſoon afterwards as poſſible. If any time were loſt, other inſects might depoſit their eggs, to the fruſtration of the experiment.

It is obvious that all the caſks ſhould be cloſely bunged up.

When from the heat, the reſt of the ſhip's water ſhall begin to corrupt, every one of the experimental caſks ſhould be examined at the ſame time. All of them ſhould be taſted, and examined whether they have any ſmell; the tranſparency of the water ſhould be noticed; it ſhould be weighed in the hydroſtatical balance; a thermometer ſhould be introduced into the caſks, to aſcertain their temperature; an equal quantity of dry pulſe, ſuch as had been made uſe of for the ſame purpoſe before ſailing, and which ſhall have been preſerved for this purpoſe, ſhould be boiled in them; and, laſtly, an equal quantity of ſoap, ſuch as has already been uſed, ſhould be diſſolved in equal quantities of water from every one of them.

It will be neceſſary to obſerve, with great attention, whether inſects be formed in them, and of what ſpecies they are; and to watch their metamorphoſes, and the gradations of corruption and putrefaction in the water: it will be proper even to preſerve ſome of theſe inſects in brandy, ſo as to bring them back to France.

If the wants of the ſhips companies will allow of it, the other caſks remaining of the ten experiments, ſhould not be touched before arriving in a different climate, and in another latitude where the common water will corrupt; in this ſecond caſe, they muſt be examined as in the former.

An exact account muſt be kept, in the form of a legal depoſition, of all that may happen, or be remarked in theſe experiments. This depoſition will be ſigned by M. De La Pérouſe, by his officers, and by the natural philoſophers who will be on board.

If this plan of experiments be deemed intereſting, it will be conceived how much it is to be deſired, that each of the ſhips M. De La Pérouſe will command may repeat it at the ſame time; they may ſeparate and run through different tracks; double obſervations will reciprocally confirm each other, and carry the thing to a demonſtration: there ought to be the leſs reaſon to object to it, as the water of the experiments will be as good as the other, and it will not occupy an uſeleſs place in the ſhips, ſince it may be drunk.

I requeſt M. De La Pérouſe to ſign two copies of this ſketch, which will be ſigned by myſelf; he will keep one, and I the other; this will be a teſtimony of the engagement he enters into with the public, to take upon himſelf experiments, which

may turn to the advantage of navigation: at leaſt they are propoſed with this intention.

Rambouillet, the 19th of May, 1785.

(Signed) Teſſier, and La Pérouſe.

## MEMOIR

*For directing the gardener in the occupations and duty of his voyage round the world, by M. Thouin, firſt gardener of the botanical garden.*

The miſſion of the gardener, who will accompany M. De La Pérouſe in his expedition, having for its object the carrying ſuch vegetable productions of Europe to the inhabitants of the places he viſits, as may be uſeful to them, and to bring back from thoſe various countries the vegetables proper for enriching Europe; it has been thought proper to divide this memoir into two parts.

### FIRST PART.

*Choice, nature and culture of the vegetables which may be tranſported from France.*

Of all the preſents which the munificence of the King would make to the inhabitants of the newly diſcovered countries, vegetables fit for the nouriſh-

nouriſhment of man are, without diſpute, thoſe which will procure them the moſt laſting benefits, and the moſt proper to promote their happineſs.

The choice of theſe vegetables ought to be made from among our leguminous plants, and our moſt valuable fruit trees; the roots and fruits which ſtand in need of no preparation previous to their uſe ought to obtain the firſt conſideration, and thoſe which only require cooking without moiſture ſhould obtain the ſecond. It is within theſe limits we ſhould confine the preſents about to be made to a people, who, not having convenient veſſels for boiling their food, could make no uſe of herbs and fruits which required ſuch preparation. It is under theſe conſiderations that the liſts have been formed, which are to be found at the end of this paper.

It is neceſſary ſtill to obſerve, in order to diminiſh the expence of the purchaſe, not to carry out the ſeeds of thoſe kinds of vegetables which are only preſerved by a careful and delicate culture. Theſe ſeeds, left to themſelves in climates ſo different from thoſe they have been accuſtomed to, or at moſt to a rude culture, would ſoon return to their primitive ſtate, and therefore only ſerve to encumber the ſhip.

The choice being reſolved on, it is proper to determine in what way it will be moſt profitable to convey theſe vegetables.

There cannot be a doubt but the ſtate of ſeed, at the ſame time that it is the leaſt expenſive in the purchaſe, is the moſt convenient for carriage; it is alſo the moſt ſure in general, for multiplying the productions of one climate in another; but it requires a choice in the ſeeds, attention for their preſervation during the voyage, and pains to ſow them advantageouſly in the different places to which they are deſtined.

The moſt ſcrupulous attention muſt be had not to purchaſe any but the laſt year's produce, well grown, and which are perfectly ſound: thoſe which appear ſhrivelled, or eaten into by inſects, muſt be carefully excluded, not only as uſeleſs, but alſo as injurious to the others.

The ſeeds thus choſen will be divided into two parts: the firſt comprehending all thoſe which only need to be defended from the contact of the air, and from moiſture, in order to their preſervation; the ſecond will be compoſed of all the ſeeds which it will be neceſſary to lay in ſand, or in earth, to preſerve their vegetative power, ſuch as the ſtones of our fruit trees, the ſeeds of ſeveral umbelliferous plants, &c.

The firſt ought to be preſerved in brown paper bags, and afterwards encloſed in tin boxes, ſoldered very carefully; the ſecond will be placed in alternate layers of earth or ſand, in tin boxes which muſt be cloſed up exactly.

Theſe

Theſe different boxes, thus ſhut up, ought to be encloſed in ſolid caſes, which ſhould be covered with waxed cloth; they ought to be placed in a part of the ſhip the leaſt acceſſible to moiſture, and the moſt ſheltered from extreme heat or cold; they muſt be left in this ſituation, until the proper ſeaſon for ſowing the ſeeds.

As it is probable, that the ſowing will not be confined to one place, and that it may be preſumed New Zealand, the Sandwich iſlands, as well as the Friendly and Society Iſlands will have their ſhare of theſe preſents; it is conceived, that to avoid letting the air into ſuch ſeeds as will only be ſown at very different periods, it would be more convenient to divide the whole of the aſſortment into four parts, ſo as that each one of them might be contained in a cheſt, which would only be opened at the time of ſowing. By this, an inconvenience very prejudicial to the ſeed will be avoided.

Order being abſolutely indiſpenſable in a collection of this nature, the gardener will take care to write upon each packet the name of the ſeed contained in it, to enter each in a catalogue as he packs them up in the tin-boxes, to number them agreeably to his catalogue, and afterwards to place them by order of the numbers in each of the great cheſts intended to contain this aſſortment: by theſe means he will at all times be

enabled to find readily, and without any trouble, the articles for which he has occaſion.

It is ſcarcely poſſible to trace in a preciſe manner any plan for the ſowing of theſe ſeeds, and their cultivation in the places which will be run over ſo rapidly; all that can be ſaid will be reduced to general obſervations, the application of which muſt be left to the knowledge of the gardener.

On arriving at any place where it is propoſed to ſow any of theſe ſeeds, the firſt care of the gardener ſhould be to gain information as to the temperature of the climate, to examine whether the productions of the ſoil, eſpecially the annual plants, are in a ſtate of growth, maturity or decay. Theſe obſervations ought to direct him in the choice of the ſeeds which will beſt agree with the climate, and in ſelecting the moſt favourable expoſures.

In the very cold countries, if the arrival be in autumn or in winter, the ſowing the ſeeds of annual plants which would not germinate, or would be deſtroyed by the firſt froſts, muſt be given up; all that can be riſked are a few ſeeds of trees, ſuch as apple kernels, grape ſtones, and ſtones of different fruits, &c.; becauſe theſe ſeeds, which will not appear above ground till ſpring, may be expected to endure the froſt: if the arrival be in ſpring or ſummer, nothing then will ſtand in the way of ſowing all the ſeeds of thoſe ſpecies of

plants

plants, which may appear congenial to the climate, obſerving as much as poſſible to chooſe that ſoil and ſituation, which are moſt convenient for them.

In hot countries, in general, the drought is one of the inconveniences moſt injurious to the propagation of vegetables; it is requiſite, for the ſafety of the ſeed, to chooſe moiſt ſoils, the borders of rivers, and low lands, in the vicinity of the ſea: ſhady places ought to be preferred for the eſtabliſhment of nurſeries.

The places fixed upon for ſeed beds being laid out, it is neceſſary that the gardener ſhould have them dug, and that he prepare the ground for the reception of the ſeeds he thinks proper to put into it; after which he will ſow the ſeeds, and ſuperintend their culture as long as the period of the ſhips ſtay will permit him. If he could inſpire a few of the natives with a fondneſs for theſe purſuits, and could ſucceed in giving them to underſtand the value of ſuch productions, he would doubly fulfil the benevolent intention of his miſſion.

Independently of the conſtruction of ſeed beds, the gardener may try another method, which if it do not produce great advantages, will be attended with very little trouble; and that is, every time he is diſpoſed to walk up the country, to fill his pockets with a mixture of various ſorts of

of ſeed, which he might ſcatter, as he goes, in thoſe places he thinks they will be moſt likely to ſucceed; a few ſtrokes with the dibble will ſuffice to bury the ſeed, and ſtir the earth about it.

Not to omit any of the means which may render his voyage uſeful and agreeable, the gardener ſhould keep an exact journal of all his proceedings: the period of his ſowings, the appearance of the young plants, the progreſs of their vegetation, and their reſults, when he can obſerve them, will furniſh us with points of compariſon which may carry our own culture to greater perfection.

As there are many vegetables, which may be very uſeful to the inhabitants of the countries now to be viſited, but of which the ſeeds have not the quality of perpetuating our valuable varieties the reward of a long culture, ſuch as the greater part of our fruit trees, it will be proper to try to carry a few individual plants of each ſpecies, this will be the object of the next chapter. Notwithſtanding which, the carrying out abundance of the ſeeds of theſe trees ought not to be neglected, they will furniſh wild fruits, which, like thoſe our anceſtors fed on, may be employed in the nouriſhment of people ſtill leſs civilized than they were, and may procure them a fund of riches, from which their improved induſtry may in the end draw the greateſt advantages.

*Precautions*

*Precautions to be obſerved in the carriage of growing plants.*

The preſent ſeaſon does not allow us to take up the vegetables or ſhrubs which are in the open ground, and at the period of their moſt luxuriant vegetation; but at Paris it will be eaſy to find in pots every thing which in the country is cultivated in the open ground; it is neceſſary then to be furniſhed with theſe articles from our nurſery men; the almoſt certain ſucceſs will compenſate for the trifling expence of carriage to the place of embarkation.

The carrying of trees cannot be done with any hope of ſucceſs, except in boxes, wherein they may vegetate during the voyage. It is neceſſary for that purpoſe to be furniſhed with a box forty inches long, by twenty broad, and as much in depth, with a dozen holes bored through the bottom for the ſuperabundant water to run off. Its upper part muſt be compoſed of a triangular frame, upon which lattice work of iron wire muſt be fitted, with glazed frames, and window ſhutters, to keep up a free circulation of air, increaſe the warmth, when neceſſary, and keep out the cold.

The ſelection of the ſpecies being made conformably to the ſtatement drawn out and placed at the end of this memoir, it will be proper to purchaſe

purchaſe only young plants, and ſuch as are branchy to the end of their ſtalk. Care muſt be taken that they are healthy, vigorous, and their grafts are as near as poſſible to their roots. When as many are collected as it is poſſible to put into one box, they muſt be packed up as follows.

At the bottom of the box, and upon the holes bored for the running off of the water, muſt be placed ſmall tiles to prevent the earth from being waſhed away by the waterings; after that there muſt be laid down a bed of ſtiff earth, three inches in depth, preſſed lightly down. It is upon this bed, that the firſt ſtage of young trees, choſen from among the largeſt, muſt be laid, and eſpecially thoſe which, like fig-trees, vines, cherry-trees, &c. are not liable to injury from their ſtems being deeply buried: the clods of earth which are taken out of the pots with theſe plants muſt be laid together, as cloſe as poſſible, and the ſpaces filled up with earth, compoſed of heath mould, which muſt be preſſed and ſpread as well as poſſible, ſo that this firſt rank may form one ſolid maſs; a bed of heath mould of two inches depth muſt cover the firſt ſtage. The arrangement of the ſecond muſt be managed in the ſame manner. It ought to be diſpoſed as the firſt, clod muſt be laid againſt clod, the ſtems of the higheſt in the middle, and by gradation the loweſt towards the edges, all the

the interſtices muſt then be filled up with heath ſand, without regarding the burying the ſtems of the trees in the under bed, provided three or four of their ſhoots are above ground. Laſtly, the whole maſs muſt be compreſſed, either by beating the box againſt the ground, or by forcing it down with the hand, ſo that no vacancies may remain, and neither the jolting of carriages, nor the rolling of the ſhip occaſion any derangement.

In order to be ſtill more ſure of this advantage, a bed of moſs might be laid on the ſurface of the upper bed, and that again covered with freſh wheat ſtraw, both together of the thickneſs of an inch and a half, which might be kept down by a frame croſſing the box between the ſtems of the young trees, without touching them, and nailed upon two ledges, fixed in the inſide, the length of the two ſides.

The plantation being thus finiſhed, the trees muſt be pruned in ſuch a manner, that the branches, the neareſt to the wire work, will be about an inch or two from it; afterwards the whole maſs of this box muſt be well watered, and, a few days afterwards, it may be ſent off to Breſt by the carriers.

In order to diminiſh the loſs of the moiſture in the box, which it will be impoſſible to renew during a journey of twelve or fifteen days, it will be proper to cloſe the lateral ſhutters, but to leave

ſeave the two ſmall ones at the extremities open, ſo that the air may be renewed, and the plants preſerved from decay.

On the arrival of the boxes at Breſt, the firſt care of the gardener ſhould be to open them, to raiſe the wire lattice, and to cut away the abortive ſhoots; afterwards he ſhould probe the earth to examine its ſtate of moiſture, and to remedy any little diſturbance the carriage might have occaſioned. After the privation of free air that theſe trees will have experienced, it will not be prudent to expoſe them ſuddenly to the ſun; it will be more adviſeable to defend them from it, either by placing the boxes in the ſhade, or by covering them with canvaſs for a few days.

The care of the boxes, and nurſing of the trees, during the voyage, will be confined to the watering them, as often as neceſſary, and preſerving them from extreme heat as well as from great cold, either by covering them with canvas during the day, and giving them as much air as poſſible during the night, or putting them down between decks in the cold latitudes; beſides a little uſe of the pruning knife may be neceſſary to ſhorten, now and then, the too vigorous among them which might hurt their neighbours.

The trees, arrived at the place of deſtination, muſt be taken out of the boxes, with the earth about the roots, in the moſt careful manner poſſible,

poſſible, and planted in ſuch aſpects, and in ſuch ſoil, as will beſt agree with each of them; and during his ſtay the gardener will watch over their preſervation. If the whole of the package be not intended for the ſame place, he will only take out of the box ſuch individual plants as he propoſes to ſet, and will fill their places with ſuch productions from the country as he may think uſeful to Europe. The judgment of the gardener muſt be relied on for making the natives of the place underſtand, that theſe trees are preſents, and that they ought to watch them carefully on account of the benefit they will derive from them. This is nearly all that can be ſaid concerning the firſt part of the gardener's commiſſion: we ſhall now ſpeak of the ſecond.

## SECOND PART.

*Of the gathering ſuch vegetables as may be uſeful to Europe, and of their preſervation during the voyage.*

THESE collections ſhould compriſe, 1ſt, The ſeeds, 2dly, the bulbs and fleſhy roots of vivacious plants, 3dly, the ſaplings of intereſting trees, the ſeeds of which are not to be procured.

The ſeeds ſhould be harveſted when there is a choice of them to be had, and in their perfect maturity; but as it often happens, that the ſhort ſtay

ſtay made on an iſland leaves no opportunity to delay the gathering of ſeeds which are not perfectly ripe, while it is neceſſary, nevertheleſs, not to diſpenſe with the gathering them; there is an advantageous mode of proceeding, but in ſuch a caſe an indiſpenſable precaution is to be obſerved.

The herbaceous plants, of which the ſeeds are found to be not above three parts, or even two thirds ripe, it will be neceſſary to have them plucked up by their roots, afterwards tied in truſſes, and in that form conveyed to the ſhip, where they muſt be ſuſpended in a place defended from the ſun and from moiſture; there cannot be a doubt, but that a part of the ſeeds of theſe plants will ripen in the ſpace of ſix or eight days; they may then be gathered and put up.

If it ſhould happen, that ſome intereſting plants, from which it is ardently deſired to obtain ſeed, be found at a period when their ſeed is but juſt fecundated, there is no occaſion to deſpair of ſucceeding. In this caſe, it is proper to take up the plants with the roots, and the clods of earth about them, and to plant them in baſkets. Theſe baſkets ſhould be cloſed with their own covers, or with mats, for the firſt few days; the plants ſhould be watered night and morning, and by degrees uncovered; the ripening of the

ſeeds will thus be effected during the voyage, and there will be no cauſe to regret having loſt an opportunity, which might never again occur, of procuring to Europe a precious vegetable.

If, through good fortune, perfectly ripe ſeed be met with, ſtill the manner of gathering it in is not a matter of indifference, with reſpect to its preſervation. Not only does it require care to avoid ſhaking out the ſeeds, but it is neceſſary alſo to gather them in their chaff and with their peduncules. Thoſe which grow in huſks, pods, and capſules, will remain in their ſeed-veſſels which it will be even neceſſary to tie, in order that they may not open during the voyage; the ſame will be neceſſary with regard to cones, and in general all dry fruits. The ſmall ſeeds which grow in ſpikes, in panicles, in whorls, and in bunches, muſt be gathered quite entire with ſtalks of five or ſix inches long, and twiſted different ways, in order to intercept all external communication of the air with the germ of the ſeeds.

To preſerve ſeeds during ſo long a voyage, and in ſuch different latitudes, requires indiſpenſable precautions. It is certain, that ſeeds left in their cups and capſules will keep better than others; but it is requiſite, that they be very dry, as well as the other parts about them, and that afterwards they be freed from inſects, and the eggs of inſects,

which might be hatched during the voyage, and devour the ſeeds without being perceived. Some hours of expoſition to an ardent ſun will ſuffice to produce the firſt effect; and if imperceptible inſects be ſuſpected, or eggs ſhut up in the coverings of the ſeeds, by taking the precaution to place them under a bell in which a little ſulphur is lighted, the vapour will kill them in a few minutes. Aſſured that the ſeeds do not contain a ſuperabundant moiſture, or inſects, they may be folded up, each ſpecies by itſelf, in ſtrong paper which has not been ſized. Upon each of theſe packets muſt be put a number, correſponding with a ſample of the plant, or tree, from which the ſeed has been gathered; afterwards theſe different packets muſt be ranged in a tin box, preſſing them as cloſe as poſſible, as much to ſave room, as to prevent the effect of the rolling of the ſhip, when by not being well confined, they might rub together and deſtroy each other. The box filled, and ſhut cloſe with its lid, ſhould be ſoldered as it were hermetically; and the article it contains ſuperſcribed thereon, as, for example: "*Seeds gathered from ſuch a period to ſuch a period, in ſuch a place.*"

When ſeveral boxes like this are gotten together, they are to be packed up in a ſtrong wooden cheſt, which muſt be covered with oil-ſkin, with a ticket,

a ticket, or label, like the former, on the outside.

The naked, or uncovered ſeeds, of the bulk of hazel nuts and above, will require another preparation. It is proper, immediately after they are gathered, to leave them expoſed to a free air, in a ſafe place, during a convenient time, to ſweat out the too abundant moiſture they may contain, and at the ſame time to perfect their maturity: after which they muſt be examined, in order to reject the illformed, the abortive, or thoſe perforated by inſects. There muſt then be diſpoſed at the bottom of a tin box, of a ſufficient ſize to hold twice the quantity of the ſeeds, a bed of earth one finger thick; upon this firmly fix a bed of ſeeds, kept at ſome lines diſtance one from another, theſe ſeeds muſt again be covered with ſix lines of earth, and another bed of ſeeds diſpoſed thereon as before; and ſo continue one after another, till within a fingers breadth of the upper part of the box, which muſt be left to admit the laſt ſtratum of earth, and this ought to be ſtrongly preſſed down by the lid, which muſt afterwards be ſoldered.

The mould uſed for this operation ſhould be neither too dry nor too moiſt, but ſuch as is found on the ſurface of the earth, when it has not rained for eight or ten days. Too dry, it might abſorb the moiſture neceſſary to preſerve the

ſeeds; too wet it would occaſion them to rot. It is on the juſt medium between theſe two extremes, and proportionally to the nature of the ſeeds, that the ſucceſs of this kind of package depends.

There is no need to mention, that it is neceſſary, after ſoldering the box, to put a ticket upon it, ſignifying what is contained in it, and correſponding with the herbal and with the gardener's journal; the importance of this precaution is too obvious.

The naked ſeeds of a ſmall ſize, below that of a pea, may be put at random with the earth, without obſerving any regularity with reſpect to beds or layers, but in all the other particulars arranged as the preceding.

The ſeeds incloſed in fleſhy calices, in berries, or in pulpy fruits, ſuch as figs, gooſeberries, apples, peaches, &c. ought to be taken thereout when the fruit begins to rot, a ſign of the perfect maturity of the ſeed; they are to be ſpread out to the open air, after which they may be ſhut up in tin boxes, with earth, as has been before directed.

To vary the chance, and leave nothing to hazard, it might, perhaps, be ſuitable to pack up a portion of each ſpecies of thoſe ſeeds which come enclоſed in capſules, pods, &c. with earth, and in the ſame manner as directed for naked ſeeds.

ſeeds. This precaution might, above all, be very fit to be taken in the harveſt or ſeed time of the beginning of the voyage: the proceſſes for preſerving the ſeeds cannot be too much varied during ſo long a voyage.

So far, all the boxes which have been recommended to be ſealed up as faſt as they are filled, ought not to be opened in any caſe until after the period of arrival in France, when it may be thought proper to ſow the ſeeds: they will require no other care during the voyage than to be diſpoſed of in a part of the ſhip the leaſt expoſed to variations of atmoſphere; they ought, however, to be preſerved from too much moiſture, and above all, from too much drought.

Among the ſeeds, there is no certainty, that there do not exiſt many the germination of which it is impoſſible to retard, ſuch as thoſe of the palm-tree, the myrtle, the ſtellated plants, and in general all thoſe the ſeeds of which are filled with a horny ſubſtance, and which have but a very ſmall embryo lodged in a little cavity; theſe families are numerous in fine trees, the greateſt part uſeful. The very ſmall ſucceſs met with in the ſeeds of theſe trees, which have been brought to us with numerous precautions, appear to prove this impoſſibility; it is expedient then to employ other means for procuring theſe intereſting objects. We think it would be proper to ſow the ſeeds at the

ſame time as they are gathered. For this purpoſe it would be neceſſary to have a caſe, the dimenſions of which may be made proportional to the quantity of ſeed intended to be put into it, but which muſt not have leſs than twenty inches of depth. This caſe muſt be filled with a light and rich mould, taken from a ſpot covered with graſs, at the time it is wanted; the ſeeds muſt be ſown very near each other, at different depths; the largeſt, ſuch as the cocoas of the Maldivia Iſlands, in eight inches depth, and the moſt delicate in four lines. There muſt be a ſpace left of about two inches, between the earth and the ſuperior edge of the caſe, to add a bed of moſs, which muſt be confined by four or five croſs ſticks, nailed on the edges of the caſe to ſecure the maſs againſt the rolling of the ſhip. The ſowings, made in caſes or troughs after this manner, muſt be further protected from the ravages of rats, and other domeſtic animals of the ſhip, during the voyage, by a range of hoops fixed acroſs the top, and interwoven or plaited with iron wire. The care and cultivation of theſe ſeeds will conſiſt in keeping the earth of the caſes, by waterings, in a ſtate of moiſture favourable to the germination of the ſeeds, in preſerving them from the ſcorching rays of the ſun, by covering them in the day-time with a coarſe canvas, and above all, by preſerving them from the cold in thoſe climates where the froſts might

might give reaſon to dread their effects, by conveying them to thoſe parts of the ſhip where they would be moſt ſafe; and laſtly, by keeping down the moſt voracious plants which might injure the moſt delicate ones: two little doors made at the two ends of the wire grating, will facilitate the means of performing this operation as often as is found neceſſary.

It has all along been preſumed, that the gardener, commiſſioned with the collecting vegetables, would find ripe ſeeds, or thoſe nearly ripe; but it may happen, that he may meet with neither one nor the other, and being in a ſituation where he cannot take up the individuals in their kind, ſee himſelf in the ſad neceſſity of quitting a ſpot without being able to ſhew to Europe a ſingle article of its productions: in a caſe like this, there is a reſource remaining, which he may make uſe of, under even the moſt unfavourable circumſtances.

Every body knows, that the ſeeds of vegetables fall as faſt as they ripen, and that many are waſhed by the rain-waters into the low places, or are carried by the winds to the ſkirts of woods: in gathering with a beſom, in theſe different places, a bulk of ſome cubic feet of earth, taken from a conſiderable ſurface, there will be a certainty of collecting a great many ſeeds of indigenous plants; and theſe earths, encloſed in troughs or boxes, after having been properly dried, will preſerve the

ſeed till his arrival in Europe. We have had proof of this in that which has been ſent by M. Aublet from Cayenne. This traveller had embarked three-ſcore caſes, filled with trees and precious plants from that colony; the trees died on the way; but the ſoil in which they had been planted, being ſpread over a large ſurface of hot-beds, and covered with frames, produced a great number of plants, many of which are ſtill preſerved in our gardens. Such means may therefore be uſed with the certainty of ſucceſs; it is indeed the only one, in certain caſes, by which ſome ſpecies of plants can be had.

The parts of fructification of plants of the family of ferns, muſhrooms, &c. are ſcarcely known; ſtill leſs known are the ſeeds of theſe plants. Hitherto the attempts to ſend the ſtems with roots to Europe, have been unattended with ſucceſs; it is probable, that in gathering up the earth where theſe plants grow, and mixing with it their leaves in different ſtates, germs may be obtained, which, if well managed in their firſt openings or expanſion, might afford us intereſting plants. For this purpoſe, it is requiſite, that the gardener, charged with the duty of ſending theſe things to Europe, ſhould pay the greateſt attention to note in his journal, the nature of the ſoil he has collected, its expoſition or aſpect,

the

the degree of moiſture or dryneſs, and laſtly, whether he took it up in a woody or open place.

To ſave room as much as poſſible, and to profit to the utmoſt from the ſowing bare ſeeds, the mould which accompanies them muſt be choſen in the manner before directed, rather than taken at random, a circumſtance which will require additional attention ſtill, but will procure a further advantage alſo.

To terminate, in ſhort, all that remains to be ſaid on the ſending ſeeds here, we will endeavour to eſtabliſh the proportions in which every one ought to be gathered.

It is not to be doubted, that the trees and plants which may be uſeful in Europe for the food of its inhabitants ought to hold the firſt rank in eſtimation; ſuch as that ſpecies of fern the root of which ſerves the natives of New Zealand for aliment. The plants of uſe in the arts ought to hold the ſecond; ſuch as may conduce to the decorations of our gardens, the third; and, laſtly, the fourth will compriſe the plants which are only proper to have a place in the botanical gardens. The quantity collected ſhould alſo be proportioned to the climate in which it is done. In countries where the temperature is analogous to that of Europe, no riſque is run in gathering a great abundance, becauſe it will be eaſy to make uſe of thoſe ſeeds which require ſowing in the open ground; and

their quantity will afford the means of multiplying them in every province in France. Thoſe in countries more warm ought to be gathered in ſmaller quantity, becauſe theſe ſeeds ſtanding in need of hot-beds and frames, and of being confined, in order to raiſe them, only a very few can be preſerved, unleſs it were deſired to ſend them to our colonies of the Antilles or of India; in that caſe, it is neceſſary, that the cultivation of theſe objects ſhould be made ſuſceptible of other advantages. Another obſervation not leſs important is, to collect a greater quantity of each ſpecies of ſeeds in the laſt years of the voyage than in the firſt; becauſe it is poſſible, that in ſpite of all the pains, a part of the ſeeds gathered or ſown in the commencement of the voyage will become impoveriſhed before the return to Europe, and that there will be a great deal of every kind not in a condition to grow, while the harveſtings of the laſt years of the voyage will be infinitely better.

If the touching at ſome of the European ſettlements ſhould be foreſeen, it would be adviſeable that the gardener made his diſpoſitions before hand, to depoſit there a bale of little packets of every ſpecies of ſeeds which he may have choſen, and that he join thereto a duplicate of his herbal, of which the numbers will correſpond with thoſe he affixes to the little bags of ſeeds he brings back to Europe. The articles thus ſent may be contained

tained in tin boxes, enclosed in oil-cloth, and addressed to M. Le Maréchal de Castries, for the King's gardens.

*The carriage of bulbs, bulbous roots, fleshy roots of vivacious plants, and their cultivation during the voyage.*

There cannot be a doubt, but that, if these plants be met with in their state of repose, that is, when their fructification is completed, and their stems dried, it is the most favourable season for taking them out of the ground; they stand in need of no other care afterwards than to be picked from their dead branches, and that part of their covering which might be impregnated with the moisture of the air, and occasion the rotting of the bulbs; exposed to the rays of the sun for a few days they will have parted with the perspirable moisture, and may be put up in boxes, layer above layer, with fine sand, and especially that which is dry.

If these plants are only met with in full vegetation, it will be requisite to dig them up with a clump of mould about the roots, and plant them in baskets, thus cultivating them till their stalks are dead, when they may be drawn out without risk. By taking the precautions pointed out in the preceding article, their preservation may be effected.

Theſe bulbs not being ſuſceptible of having their vegetation retarded, at the periods when they are accuſtomed to grow, will ſhoot, do what you will to prevent them; it is neceſſary therefore, that the gardener be attentive to inſpect, from time to time, the boxes in which he ſhall encloſe them.—When he perceives the commencement of their entering into vegetation, it will be proper for him, to take them out, and prepare one or more boxes of eight inches or a foot at moſt for their plantation. They muſt be filled with a light rich loam inclining to ſandy, which the gardener will take from a ſpot appearing fertile in plants, always with the view of acquiring indigenous productions, a circumſtance which will multiply the chances without adding to the burden of carriage. The bulbous roots may be planted half an inch from one another, and at the depth of from one to four inches according to their ſize. The plantation finiſhed, it will be well to leave a vacancy of two inches between the earth and the edge of the box, to receive a bed of long moſs, or when that is not to be had, of dry graſs; let battens be nailed upon the box, for ſecuring the whole from the rolling of the veſſel; and afterwards work the cover with hoops and net work of wire.

During the vegetation of theſe bulbous plants, the culture ought to conſiſt in light ſprinklings of water, in prunings, in aſſiduous attentions to defend them

them from a too powerful ſun, from heavy rains, and above all from cold.

When the vegetation of the bulbous plants is accompliſhed, it will be neceſſary wholly to deprive them of water; to accelerate the withering of their ſpires, by leaving them expoſed to the full ſun; after this nothing can hinder the taking theſe bulbs out of the earth and putting them up in boxes, obſerving the precautions pointed out for their preſervation. This care muſt be repeated as often as the ſeaſon revolves during the voyage.

In order not to loſe the hiſtory of the vegetation of theſe ſpecies of bulbs by the numerous diſplacings, it would be convenient there were a leaden number attached to each by a bit of fine iron wire, ſuch number as would correſpond with the gardener's journal.

*Of the choice of ſuch living trees as it may be deſirable to bring to Europe, and of the care of them during the voyage.*

There ought to be a very moderate uſe made of theſe means of acquiring the productions of a diſtant country, and eſpecially in the firſt part of the voyage. There are but very few vegetables, which, cultivated during three or four years in boxes, and experiencing almoſt ſudden changes from one temperature to another, can reſiſt ſo great a contrariety,

riety, in ſpite of the aſſiduous pains, of the details of which we are going to give a rough draft: it is therefore abſolutely neceſſary to refrain from chooſing any objects in this manner, except thoſe which are eſſential, and of which the ſeed is not to be had.

It is requiſite to ſelect the individuals young, thoſe coming from ſeed are preferable to others which grow on a ſucker; it is deſirable they ſhould be healthy and vigorous, that they ſhould be of the ſize of the thumb at bottom, that they ſhould be branchy from their root, if poſſible; and they muſt be tranſplanted with care, ſo as not to break or rub the roots.

They ought to be planted in the boxes as near as poſſible to each other.

To do this with ſucceſs the following means ought to be employed. The box, formed of ſound wood, ſhould be placed level upon treſſels, which will raiſe its bottom ſome inches from the ground, in a place ſhaded from the ſun. In the bottom of the box, over the holes which have been bored in it, muſt be placed cockle ſhells or ſmall ſtones to prevent the earth from going out, and ſtill to allow the water to run off; after this make a bed of light and rich mould, from two to three inches in height, for the whole extent of the box; afterwards, if the trees and ſhrubs propoſed to be brought are with naked roots, they muſt be

put

put one againſt the other, placing thoſe the firſt which have the largeſt roots, and thoſe which are the leaſt provided with fibres, between the other, and the cloſeſt poſſible to ſave room; laſtly with the earth fine and dry, in order that it may inſinuate itſelf between the ſpaces of the roots, bury the trees as high as the branches, taking care as faſt as it is ſcattered upon the roots to ſpread it and work it down either by jolting the box againſt the ground or by uſing a dibble to preſs it in between the roots, ſo that every void may be filled up. This operation performed, the box muſt be watered, and the watering repeated ſeveral times, until the water make its way through the holes at bottom, and then cut the young trees down to about ſeven or eight inches above the earth; it will be adviſeable to cover the ſurface of the earth with a bed of moſs of ſome inches thickneſs, as well to preſerve the moiſture as to render the whole maſs more firm by means of a wooden grating.

If the ſhrubs, inſtead of being naked at the roots, have a clump of earth about them, their ſucceſs will be the more ſure; then theſe clumps muſt be brought cloſe together in the box, and to regain the loſs of room they will occaſion by their bulk, ſlips or ſuckers of trees may be planted between every one of them and be thus propagated, ſuch as the *paletuviers*, figs, and other ſpongy trees;

trees; in addition to all this, ſeeds may be planted, as in the other, and may be arranged and managed in the ſame way.

The boxes thus filled with ſhrubs may be put on board ſhip; their management may be the ſame as in our hot houſes; it will conſiſt firſt in daily waterings proportioned to the need of the individual ſhrubs, and to the degree of heat in the climates where they may be met with; it would be better to err by defect than by exceſs, the conſequence is leſs to be apprehended for the preſervation of the trees. Theſe waterings muſt be made with freſh water, ſea water being hurtful to almoſt all vegetables; water muſt be given them every night and morning in hot latitudes, with the roſe on the ſpout of the watering pot, in the form of ſmall rain, ſo as to waſh the leaves and the ſtems before the earth imbibes it. In cold countries, on the contrary, there is no need to water them but on preſſing occaſions; the warmeſt hour of the day muſt be choſen, and the water given to them by the pot without the roſe, and poured on the roots of thoſe plants which have need of it.

Independently of this care, it is important that the gardener watch the ſhrubs every day, that he clear away the dead leaves and the inſects which might hurt them, that he clip the too vigorous ſhoots, that he ſhelter them from the cold, from the extreme heat, from the drought, from too much

much moiſture; and above all, in thoſe ſituations where it will not be poſſible to leave them the free air, that he renew from time to time the air of the boxes, by opening for ſome hours the two little ſhutters at the end; without this, the plants would blanch, and their leaves grow ſpeckled or become mouldy, and at length periſh.

The ſucculent plants of a mucilaginous nature, ſuch as different ſpecies of cactus, aloes, euphorbiums, woody purſlain, ficoides, &c. may be brought in their natural ſtate, after the ſame manner as the ſhrubs; but it is neceſſary to keep them apart, as they require a ſeparate management. The earth, in which they are to be planted very near each other, ought to be of a compact nature; ſix or eight inches deep at the bottom of the box will be ſufficient to receive them: inſtead of moſs, there muſt be put over the earth a bed of long ſtraw, or very dry hay, kept cloſe down by a grating of wood; and when theſe plants ſhall have been planted in theſe boxes, they muſt be plentifully watered to conſolidate the earth about their roots during the voyage. They ſhould not be watered but when they ſtand in great need; air muſt be given to them as often as poſſible, and they muſt eſpecially be preſerved from wet and cold.

Theſe are nearly all the eſſential precautions neceſſary to be taken for the ſucceſs of the plants

of this nature. The underſtanding of the gardener will ſupply an infinity of little details which are not to be foreſeen: but we think, that theſe methods of enriching Europe with foreign productions ought not to be uſed but in the year of the return of the ſhips.

*A liſt of the articles neceſſary for the gardener during his voyage.*

1. Twenty-four tin boxes of different ſizes, from ten inches in length, by eight in breadth, and ſix in depth; to twenty inches in length, by ſixteen in breadth, and twelve in depth.

Theſe boxes are deſigned to put a part of the ſeeds in, which will be exported from Europe, and they will ſerve on the return to contain the ſeeds which may be met with during the voyage.

2. Two watering pots, one with a fine roſe, the other with a gullet, for watering the plants growing on board the ſhip, and for the ſeeds ſown in the different ſpots of cultivation in the voyage.

3. Four pruning knives of different ſizes, to ſerve both in gardening and harveſting.

4. Two grafting knives for the ſame uſe.

5. Two quickſilver thermometers graduated after Réaumur, to be placed in the boxes of living

living plants, in order to direct the gardener concerning their cultivation.

6. The ten punches neceſſary for ſtamping the numbers proper to mark the trees and plants, which will be exported from Europe, and thoſe which will be brought to it.

7. Sixty pounds of ſheet lead, of a line thick, to make the tickets.

8. A ſtaff ſix feet long, divided into feet throughout, which, at the bottom, muſt have a ſocket for a ſmall ſpade to ſcrew in, with which plants may be taken up roots and all; and, at the upper end, another cavity to fix a ſmall creſcent with a hook to come at thoſe branches of trees which will be out of the reach of the hand.

9. Two mattocks, or pick-axes, one end flattened, the other pointed, proper for making the holes neceſſary to the plantation of trees, and taking up thoſe which are intended to be brought to Europe.

10. Two ſpades, deſigned for the ſame uſe.

11. Two claſp hand-ſaws, proper for ſawing off the branches of trees, where it would be impoſſible to obtain the ſeed otherwiſe.

12. Three tin boxes, ſixteen inches long, by ten broad and ſix deep, divided in the inſide into many compartments, opening with hinges, and having rings to ſuſpend them by ſhoulder belts,

to go harvesting for seeds, and collecting plants for the herbal.

13. Six other tin boxes, of sixteen inches length, by eleven of breadth, and a foot deep, to put the dry plants in, the numbers of which must correspond with those which will be put upon the seeds gathered.

14. Six reams of large and strong brown paper, not sized, to prepare the specimens of plants designed for the herbal.

15. Four reams of large white paper, to put the dry plants on.

16. Four books in quarto of writing paper, proper for the gardener's journal, and for entering the accounts of the productions which he takes away, and those which he will bring back in the course of his voyage.

17. A large writing case furnished with two pen knives, a dozen pencils, and a stilet for dissecting seeds.

18. A magnifying glass with two lenses.

19. The *Elémens d'Agriculture*, by Duhamel, 2 vols. in 12mo.

20. The *Physique des Arbres*, of Duhamel, 2 vols. in 4to.

These two works are designed for the instruction and amusement of the gardener, during so long a voyage.

*A list*

*A list of the seeds, and the quantity necessary to be bought, for sowing in the various places chosen for cultivation.*

## FIRST DIVISION.

*Substances which may be eaten without preparation.*

### Fruits of Trees.

| | | |
|---|---|---|
| Kernels of | Apples | 6 bushels. |
| | Pears | 6 ditto. |
| | Grapes | 8 do. |
| | Gooseberries | 8 litrons (or qrs. of pecks.) |
| Stones of | Peaches | 2 bushels. |
| | Apricots | 1 do. |
| | Plumbs | 1 do. |
| | Cherries | ½ do. |
| Almonds | - | 2 bushels. |
| Nuts | - | 2 do. |

### Fruits of Herbs.

| | | |
|---|---|---|
| Seeds of | Melons of different kinds, | 6 litrons. |
| | Water-melons, red and white. | 4 do. |
| | Artichokes, white and violet, | 4 do. |
| | Guinea Pepper. - - | 1 do. |

### HERBS.

| | | |
|---|---|---|
| Seeds of | Celery, of different varieties, | 1 buſhel, |
| | Chervil - - - | ½ do. |
| | Creſſes (alenois) - | 1 do. |
| | Parſley, of different varieties, | 4 litrons, |
| | Purſlain (golden) - | 1 do. |
| | Sorrel - - - | 1 do. |
| | Lettuce (cabbage) - | ½ buſhel, |
| | Lettuce (roman) - | ½ do. |
| | Small lettuce for cutting, | 1 do. |
| | Endive, or wild ſuccory, | 1 do. |

### ROOTS.

| | |
|---|---|
| Onions, white and red - | 1 do. |
| Turnips of different varieties - | 2 do. |
| Radiſhes of different ſpecies | 6 litrons, |
| Turnip rooted radiſhes, black and white, | 2 do. |
| Garlick - - - | 1 do. |
| Eſchalots - - - | 1 do. |

## SECOND DIVISION.

*Subſtances which need no other preparation for eating than to be roaſted.*

### ROOTS.

| | |
|---|---|
| Potatoes - - - | 1 litron. |
| Carrots of divers varieties - | 2 buſhels. |

Chiroui

| | |
|---|---|
| Chiroui - - - | 3 litrons. |
| Parſnips - - - | 1 buſhel. |
| Salſafy (Spaniſh) - - | 1 do. |
| Salſafy (white) - - | ½ do. |
| Beet-root (red, white, and yellow,) | 3 buſhels. |

## FARINACEOUS SEEDS.

| | | |
|---|---|---|
| To be bought at Breſt. | Wheat of different ſpecies | 8 buſhels. |
| | Maize of different varieties | 4 do. |
| | Buck wheat, or black corn | 4 do. |
| | Piedmont rice - | 4 do. |
| | Barley of different ſpecies | 4 do. |
| | Oats of different varieties | 2 do. |
| | Rye - - | 4 do. |

## THIRD DIVISION.

*Productions which are not eatable unleſs boiled, and on that account are proper only for thoſe people who have convenient veſſels for cooking them.*

| | |
|---|---|
| Peaſe of different ſpecies - | 6 buſhels. |
| Kidney beans of different ſpecies | 6 ditto. |
| Garden beans of different varieties | 3 do. |
| Lentils of the large ſpecies - | 2 do. |
| Chich-peas, white and red - | 1 do. |
| Lupines - - - | 2 litrons. |

| | |
|---|---|
| Vetches, white and black | 2 ditto. |
| Fenugreek | 1 do. |
| White muſtard | 1 do. |
| The egg-plant | ½ do. |
| Cabbages, white | 1 buſhel. |
| Cabbages, red | 1 do. |
| Citrul, or Pompion | 1 do. |
| Cucumber | 1 litron. |
| Gourd | 1 ditto. |
| Calebaſh gourd | 1 ditto. |
| Orach | 1 buſhel. |
| Chard-beet | ½ do. |
| Tobacco | ¼ of a litron. |

*Note.*—It will be proper to divide this aſſortment of ſeeds into four equal parts, every one of which muſt be encloſed in a box, not to be opened but at the time of ſowing, in order to avoid the inconvenience of letting the air get at ſuch ſeeds as are not to be ſown for many months, and even a year after they are gathered.

*Enumeration of vegetables which ought to be conveyed in their natural ſtate.*

FRUIT TREES AND SHRUBS.

1 Apple tree—red calville.
1 Apple tree—white.
2 Apple trees—true rennet.

2 Apple

2 Apple trees—*d'apis*.
1 Pear tree—Engliſh beurré.
2 Pear trees—bon-chrétien.
2 Pear trees—craſſan.
2 Pear trees—Saint-Germain.
4 Vines—golden chaſſelas.
4 Vines—muſcadine.
2 Vines—raiſin de Corinthe.
2 Peach trees—groſſe mignonne
1 Nectarine tree.
2 Plumb trees—reine claude,
1 Plumb tree—mirabelle.
2 Plumb trees—large damaſcene of Tours.
2 Apricot trees—common.
2 Peach apricot trees.
3 Fig trees—white.
2 Fig trees—angelique.
2 Fig trees—violet.
2 Cherry trees—Montmorency.
2 Black heart cherry trees.
2 White heart cherry trees.
2 Olive trees—true.
2 Quince trees—Portugal.
1 Mulberry tree—black.
2 Garden cheſnut trees.
1 Nut tree—tender ſhell.
1 Almond tree—tender ſhell.
2 Raſpberry buſhes—Malteſe.

### Leguminous Plants.

| | |
|---|---|
| Potatoes of different varieties<br>Jeruſalem artichoke<br>Garlick - - -<br>Eſchalots - - - | To be had at Breſt. |

Weſt-India ſweet potatoes and yams, to be taken in at the Cape de Verd Iſlands, or at the Cape of Good Hope, or in North America.

### Shrubs for Pleasure.

Roſes—hundred leaved.
Lilacs.
Tuberoſes.

## INVENTORY

*Of the merchandize and effects embarked on board the ſhips under the orders of M. De La Pérouſe, for making preſents and exchanges.*

| | |
|---|---|
| IRON in bar - - | Furniſhed by the Port of Breſt. |
| Iron in plates - - | |
| Iron nails of different ſizes | |
| Packets of iron wire - | |
| Copper in ſheets - | |
| Packets of copper wire - | |
| Lead in ſheets - - | |
| Clothes of different kinds | |
| Nets for fiſhing - - | |
| &c. &c. &c. | |
| Hatchets of different ſizes and adzes | 2000 |
| Joiners chiſſels and gouges - - | 2500 |
| Carpenters augurs - - - | 50 |
| Iron hammers and malls - - | 700 |
| Iron wedges to cleave wood - - | 550 |
| Long ſaws, framed - - - | 50 |
| Long ſaws, unframed - - | 500 |
| Hand ſaws - - - - | 600 |
| Pincers round and flat, and others to draw nails - - - - - | 1000 |

Knives

| | |
|---|---|
| Knives of different ſorts and ſizes - | 7000 |
| Pruning knives - - - - - | 150 |
| Pairs of ſciſſars for taylors, and others | 1000 |
| Steel files - - - - - - | 2400 |
| Raſpers of wood - - - - | 1200 |
| Packets of braſs wire aſſorted, weighing lbs. | 500 |
| Gimlets, or borers - - - | 1000 |
| Wimbles with their bits - - | 100 |
| Fiſhing hooks - - - - | 9000 |
| Needles of different ſizes - - | 50,000 |
| Pins aſſorted - - - | 1,000,000 |
| Looking glaſſes framed of different ſizes | 600 |
| Drinking glaſſes with feet - - | 1800 |
| Water bottles - - - | 200 |
| Cups and ſaucers of India porcelain, coloured and gilt - - - - - | 200 |
| China bowls, idem - - - | 50 |
| Bugles, or beads of coloured glaſs, aſſorted packets - - - - - | 1400 |
| Glaſs rings in colours - - - | 2000 |
| 600 Goblets<br>100 Ewers<br>600 Plates<br>100 Diſhes — Of pewter. | |
| Tinder boxes - - - - | 1000 |
| Flints for tinder boxes - - - | 30,000 |
| Amadou (a tinder made from the fungi of trees) lbs. - - - - - | 200 |

Glue

| | |
|---|---|
| Glue, pounds | 200 |
| Copper pots for the glue | 50 |
| Ringing bells of two kinds, packets | 24 |
| Combs, of wood, bone, and horn | 2600 |
| Blowing bellows | 24 |
| German organs, large | 4 |
| Serinets, or ſmall organs | 12 |
| Dragoons' helmets in copper, with plumes and horſe-hair tails | 52 |
| Gorgets of poliſhed copper | 102 |
| Caſſe-têtes in poliſhed copper | 12 |
| Medals in ſilver, or bronze, the King's effigy, with the inſcription bearing the names of the ſhips, and the epoch of the voyage, ſome with chains of the ſame metal, and ſome without chains | 100 |
| Other medals, in ſilver or bronze, with the King's effigy | 600 |
| Buttons of coloured glaſs, ſet in copper, gilt, tranſparent and ſparkling, dozens | 96 |
| Buttons gilt, ſilvered, and of poliſhed copper, dozens | 720 |
| Vermillion, packets | 2000 |
| Feathers red, yellow, and white, bunched, aigretted in plumes, &c. to the amount of French livres | 1100 |
| Artificial flowers, to the value of livres | 300 |

Fine

Fine jewellery, conſiſting of rows of beads, white, coloured, ſtriped, changeable and reflecting; of ear-rings ſhaped like pears, and like girandoles of divers colours and divers faſhions; of necklaces, bracelets, and medallions, to wear about the neck in various forms and colours; of rings of different faſhions, ſpying glaſſes mounted in wood, in copper, and in fiſh ſkin, to the value of livres - } 5000

Toys and common jewellery, conſiſting of magic lanterns, flint-glaſs bottles, ſmooth and diamond like, gilt and coloured; gilt nails, convex glaſſes, multiplying glaſſes; whiſtles in bone and wood; etwees of bone, engraved, in open work, in imitation of lace, and plain; others in paſteboard, painted and varniſhed; hearts and rings ſet with ſtones; knight's croſſes, ear-rings, counters, &c. to the value of livres - - } 900

Tinſel, conſiſting of galloons, net-work, in Spaniſh points, Brandenburghs, &c. in gold, in ſilver, and in coloured foil, for livres - } 2800

Gauzes, gold and ſilver, with wavy colours, *en faux*, to the value of livres } 700

Silk ribbands of different colours, ells 1200

Flowered

| | |
|---|---|
| Flowered ſilk ſtuffs, damaſked, clouded, &c. in remnants, ells | 312 |
| Calamancoes, in different ſtripes and colours, - - - ells - | 100 |
| Coloured ſilk handkerchiefs - - | 200 |
| Linen handkerchiefs, coloured - | 500 |
| Common cloths, ſerges, knittings, and flannel of different colours, ells | 1200 |
| Scarlet cloth, - ells - | 100 |
| Dutch ſcarlet - ells - | 25 |
| Red fringes - - ells - | 200 |
| Scarlet coats - - - | 12 |
| Serge, red, white, and blue, ells - | 50 |
| Blankets - - - - | 50 |
| Linen cloth ſtriped, blue and white, ells | 150 |
| Printed callicoes of different patterns, with large flowers, in remnants, ells - | 850 |
| Muſlin, in remnants, ells - | 100 |
| White linen, in remnants, ells - | 500 |
| Red tape, pieces - - - | 72 |
| Thread of different colours, ſkeins - | 1200 |

Flock-paper, of different colours, large patterns, 80 rolls, of nine ells each.

Flowered paper, 80 quires.

An aſſortment of garden ſeeds of the various kinds (beſide thoſe enumerated by the Sieur Thouin, firſt gardener of the royal botanical garden) to the value of about 400 livres.

The total of the merchandize embarked for preſents and exchanges amounts to 58,365 livres:

And the particulars recommended by the Sieur Thouin in ſeeds, in trees, ſhrubs and plants, to 2,330 livres.

The total of the inſtruments of aſtronomy, of navigation, of phyſics*, &c. and of books bought in France, amounts to 17,034 livres.

There have been expended in England for different articles, about 6000 livres.

There has alſo been a conſiderable ſtock of eſſence of ſpruce embarked in the ſhips, as well as of malt for making beer, with other preſervatives againſt the ſcurvy. The proviſions of this nature, and other objects deſigned to preſerve the health of the ſhip's companies, may be valued at 30,000 livres.

The extraordinary expences of fitting out for this voyage, including in the calculation the extra value of the proviſion, occaſioned by its ſuperior quality, will not exceed 150,000 livres.

(The table of the perſons of ſcience, and of the artiſts embarked for the expedition, is not included herein).

* Not compriſing the three quadrants which have been lent by aſtronomers.

A SUMMARY

## A SUMMARY ACCOUNT

*Of the inſtruments of aſtronomy, of navigation, of natural philoſophy, of chemiſtry, and others, for the uſe of the ſcientific perſons and artiſts employed in the voyage of diſcoveries.*

### ASTRONOMY AND NAVIGATION.

THREE aſtronomical quadrants.

An inſtrument for obſerving the tranſit of planets.

Three aſtronomical time-keepers, and two calculators.

Several aſtronomical teleſcopes, night teleſcopes, and priſm teleſcopes.

Five time keepers.

An Engliſh pocket watch, or chronometer, for the longitudes.

Four reflecting circles, by M. de Borda, to obſerve the heights and diſtances of the ſtars.

Three Engliſh ſextants for the ſame uſe.

Four theodolites, or graphometers, with and without teleſcopes, to meaſure the angles on land, and conſtruct plans.

Two aſſortments of chains and of ſtaves for the ſame uſe.

A ſteel fathom rod, with its ſcale, the ſame which ſerved for the meaſure of a degree of the meridian at Peru.

Divers inſtruments for meaſuring the length of the pendulum.

Two Engliſh compaſſes for obſerving the variation of the magnetic needle.

Two dipping compaſſes lent by the Engliſh board of longitude, the ſame which were uſed in captain Cook's laſt voyage.

A compaſs of the ſame nature executed by M. Le Dru.

Several other compaſſes of different uſes, ſuch as miners compaſſes, and others.

Several ſuitably choſen magnetic bars, in their caſes, to retouch the compaſs needles in caſe of neceſſity.

Several ſand glaſſes, half hour and half minute.

A ſuitable cheſt, with all the tools in clock and watch-making, and others for repairing the inſtruments, for the uſe of the clock and watch-maker embarked in the expedition.

Several caſes of mathematical inſtruments, for the uſe of the aſtronomers and engineers, and other inſtruments ſuitably choſen for deſigns and drawing.

NATURAL

NATURAL PHILOSOPHY AND CHEMISTRY.

An air pump, double barrelled, with all its apparatus.

A plate electrical machine of fifteen inches with all its acceſſories.

A great number of barometers, thermometers, and hygrometers, of different kinds, for making various experiments.

A concave burning mirror, of a foot diameter.

Two univerſal microſcopes of Dellebarre's invention, with their micrometers.

A great number of compound magnifying lenſes with three and four glaſſes, and ſimple lenſes.

Two machines for meaſuring the depth of the ſea.

A machine to aſcertain the temperature of the ſea and its ſaltneſs at different depths.

Several hydrometers.

Several aerometers.

A large linen balloon lined with joſeph-paper, twenty-ſix feet high and twenty-two and a half in diameter.

Three paper balloons, and three of ox gut.*

Two ſcaphanders.

An hydroſtatical balance with all its acceſſories.

Phoſphoric bougies.

* Gold beaters leaves are made of this when duly prepared. T.

An eudiometer, by Volta.

An eudiometer, by Fontana.

A chemical apparatus.

A pneumatic apparatus, by Rouland.

A reverberatory furnace.

An aſſortment of retorts, matraſſes, crucibles, and other utenſils of chemiſtry.

A ſilver bowl for the chemical operations.

A compleat aſſortment of acids, of alkalies, of vinegars, of lime, and other objects neceſſary for a chemical cheſt.

## BOTANY AND NATURAL HISTORY.

An aſſortment of boxes for collections of plants.

Brown paper, for drying plants, 50 reams.

Nine caſes encloſing ſcalpels, pincers, ſciſſars, &c. for diſſections.

Eight nets in poliſhed ſteel and in wire work, for catching inſects.

An aſſortment of ſhrubs, plants, ſeeds, &c. denoted in M. Thouin's liſt.

A portable caſe of mineralogy.

## DRAWING.

Several caſes containing an aſſortment of colours, bruſhes, &c. papers ſelected of different kinds for the drawings in botany, for plans, &c.

A CATALOGUE

# A CATALOGUE

*Of books of voyages, of aſtronomy, of navigation, of natural philoſophy, and others, conſigned to M. de la Pérouſe, for the uſe of the officers and ſcientific men embarked under his orders.*

## VOYAGES.

Hiſtoire générale des Voyages, by the abbé Prevoſt.
Hiſtoire des Navigations aux Terres Auſtrales, by the preſident de Broſſes.
Hiſtorical Collection of Voyages, &c. by Dalrymple.
Hawkesworth's Collection, and Cook's three Voyages in French and Engliſh.
Diſcoveries of the Ruſſians, by Coxe.
Voyage of the Ruſſians, by Muller.
of M. de Ghabert.
of M. de Fleurieu.
of M. M. de Verdun, Borda, and Pingré.
of Phipps, to the North Pole.
of Anſon.
of Bougainville.
of Kerguelen.
of Pagès.
of Dampier.
of La Condamine.

Voyage of Ulloa.
de la Martinique, by Chanvalon.
Travels in California, by the abbé Chappe.
Voyage of M. Sonnerat.
Obſervations du P. Feuillée.
Découvertes dans les Voyages de la Mer du Nord.
Queſtion ſur les Voyages D'Arabie, by Michaelis.
Conſidérations géographiques & phyſiques ſur les nouvelles Découvertes.
Découvertes des Européens dans les différentes Parties du Monde.

## ASTRONOMY AND NAVIGATION.

Hiſtoire de l'Aſtronomie ancienne & moderne, by M. Bailly.
Aſtronomie de M. De Lalande.
Aſtronomie de La Caille.
Expoſition du Calcul aſtronomique.
Tables de Mayer.
Tables de Logarithmes.
Flamſteed's Atlas.
*Cœlum auſtrale*, de La Caille.
Méridienne de Paris.
Figure de la Terre, by Bouguer.
Traité d'Optique, by the ſame.
——— de Navigation, by the ſame.
——— du Navire, by the ſame.
Nautical Almanack, for the years 1786, 1787, 1788, 1789, 1790.

Calendrier

Calendrier perpétuel.
Métrologie de Paucton.
Diſſertation ſur les Longitudes en Mer.
Vocabulaire de Marine, by M. Leſcallier.
Diſcours du Neptune Oriental, by M. Dáprès.
All the books uſual in navigation.

## NATURAL PHILOSOPHY

Journal de Phyſique, compleat, 28 vols. 4to.
Recueil de Phyſique, by Deſlandes.
Cours de Phyſique, by Deſaguliers.
Phyſique de Muſſchenbroek.
Opuſcules phyſiques, by the abbé Rochon.
Lettres phyſiques ſur la Terre, by M. De Luc.
Electricité de M. Sigaud De La Fond.
Rouland, ſur les Gaz.

## NATURAL HISTORY.

Hiſtoire Naturelle, by M. De Buffon.
Dictionnaire d'Hiſtoire naturelle.
Œuvres d'Hiſtoire naturelle, by Charles Bonnet.
Sur la Formation des Montagnes, by M. Pallas.
Mémoire pour raſſembler les Curioſités d'Hiſtoire naturelle.
Tableau phyſico-météorologique, for the obſervations to be made in the voyage.
Conſtruction de Thermométres.
Hiſtory of the winds, by Bacon.

Enquiries concerning the modifications of the atmosphere.
Flux and reflux of the sea, by Deslandes.
Vossius, Sur les courans.
Peyssonnel, on currents and corals.
Hygrometrie, by M. De Saussure.
Essay on hygrometry.
Resistance of fluids, by Bossut.
Hales's Instructions concerning the rendering sea-water fresh.
Discovery of the ventilator by Hales.
Means of preserving the health of ship's crews.
Diseases of sea-faring people, by M. Poissonier Desperrières.
Advice concerning the conveyance of trees, plants, &c. by sea.
Treatise on vegetation, by Mustel.
Philosophical letters upon salts, by Bourguet.
*Systema naturæ, auctore* Linnæo.
Linnæi *genera et systema* plantarum.
Linnæi *Philosophia botanica.*
Linnæi *Supplementum.*
Forster, Genera plantarum.
Plumier, Plantarum genera.
Adanson, Families of plants.
*Thesaurus Zeylanicus.*
*Herbarium Amboinense.*
Thunberg, Flora Japonica.
Burmanni Plantæ Africanæ.
Bergii Plantæ Capenses.

Piso

Piſo *et* Marcgravius, hiſtoriæ Indiæ.
Dillenii *Hiſtoria Muſcorum.*
Klein, Animal kingdom.
Forſkal, *Deſcriptio animalium.*
Lettre ſur les animaux, by Leroi.
Pallas, *Spicilegia zoologica.*
Pallas, *Miſcellanea zoologica.*
Ornithologie de Briſſon.
Derham's *Synopſis of birds.*
Gouan's Hiſtory of fiſhes.
The art of fiſhing.
Conchyliologie de Dargenville.
Conchyliologie fluviatile.
Klein, Sur les ourſins.
Pallas, *Elenchus zoophytorum.*
Fabricii *Elementa entomologiæ.*
Fabricii *Genera inſectorum.*
Fabricii *Species inſectorum.*
Muller, *De vermibus terreſtribus.*
Dictionnaire de chymie.
Chemiſtry by M. De Fourcroy.
Cryſtallographie de M. Romé de Liſle.
Eſſay upon a theory of cryſtals.
The Works of Henckel.
———— of Duboſe d'Antic.
———— of Marcotte.
Carte minéralogique, by Guettard.
Origine des langues, par Court de Gébelin.
Encyclopédie.
Memoirs of the Academy of Sciences.

## A LIST OF THE NAMES

*Of the officers, ſcientific men, artiſts, and ſailors embarked on board the frigates La Bouſſole and L'Aſtrolabe, under the orders of M. De La Pérouſe.*

JULY 1785.

LA BOUSSOLE.

Meſſrs.

DE LA PE'ROUSE, *capitaine de vaiſſeau*, commander in chief, employed as *chef de diviſion*, and made *chef d'eſcadre*, the 2d of November, 1786.

*Lieutenans.*

DE CLONARD, made *capitaine de vaiſſeau.*

D'ESCURES.

*Enſeignes.*

BOUTIN, made *lieutenant de vaiſſeau*, the 1ſt of May, 1786, and *major*, the 14th of April, 1788.

DE PIERREVERT.

COLINET, *lieutenant de fregate*, made *ſous-lieutenant de vaiſſeau*, the 1ſt of May, 1786.

*Gardes de la Marine.*

MEL DE SAINT-CERAN, put on ſhore at Manilla, the 16th of April, 1787.

DE MONTARNAL.

DE

DE ROUX DARBAUD, volunteer, made *élève de la marine*, the 1ſt of January, 1786, and *lieutenant de vaiſſeau*, the 14th of April, 1786.

FREDERIC BROUDOU, volunteer, made *lieutenant de vaiſſeau*, the 1ſt of Auguſt, 1786.

*Engineers, ſcientific men, and artiſts.*

DE MONNERON, captain of the corps of engineers, engineer in chief.

BERNIZET, geographical engineer.

ROLLIN, engaged as ſurgeon-major.

LEPAUTE DAGELET, of the academy of ſciences, profeſſor of the military ſchool, and aſtronomer.

DE LAMANON, natural philoſopher, mineralogiſt, and meteorologiſt.

L'ABBE' MONGES, regular canon of the French church, naturaliſt, performing the functions of chaplain.

DUCHE' DE VANCY, draughtſman of figures and landſcapes.

PREVOST LE JEUNE, botanical draughtſman.

COLLIGNON, botanical gardener.

GUERY, clock-maker.

*Warrant Officers.*

JACQUES DARRIS, *premier maître d'équipage.*

E'TIENNE LORMIER, *idem.*

VINCENT LE FUR, *maître d'équipage.*

JE'RÔME LAPRISE MOUTON, made *ſous-lieutenant de vaiſſeau.*

FRANÇOIS

FRANÇOIS TAYER, *contre-maître.*
FRANÇOIS ROPARS, *idem.*
JEAN-MICHEL LE BEC, *quartier-maître.*
JEAN-BAPTISTE LE MAITRE, *ſecond pilote.*
EUTROPE FAURE, *aide-pilote.*

*Gunners and fuſileers.*

PIERRE TALIN, pay-maſter ſerjeant of marines, *premier-maître canonnier.*
EDME-FRANÇOIS-MATTHIEU LIVIERRE, *ſergent canonnier.*
ANTOINE FLHIRE, corporal.
FRANÇOIS DIEGE, fuſileer.
GEORGE FLEURY, *idem.*
JEAN BOLET, *idem.*
PIERRE LIEUTOT, *idem.*
E'TIENNE DUTERTRE, drummer.

*Carpenters, caulkers, and ſail makers.*

PIERRE CHARRON, maſter carpenter.
JEAN-BAPTISTE-FRANÇOIS SOUDE', carpenter's mate.
ANDRE' CHAUVE, *idem.*
PIERRE MESCHIN, maſter caulker.
CLAUDE NEVIN, caulker's mate.
JEAN FAUDIL, *idem.*
ALEXANDRE MOREAU, *idem.*
JACQUES FRANCHETEAU, maſter ſail maker.
ANDRE' VERRIER, ſail maker's mate.
LAURENT POINTEL, *idem.*

*Topmen,*

*Topmen, steersmen, and sailors.*

Guillaume Durand.
Jean Masson.
Jacques Pochic.
Julien Hellec.
François Gorin.
François Lhostis.
Jean-Marie Dreau.
Alain Marzin.
Corentin Jers.
Louis Plemer.
François Gloahec.
Joseph le Bas.
Joseph Plevin.
Jean Daran.
Jean Donety.
Paul Joseph Bertele'.
Jean Magneur.
Jean François Duquesne.
Julien Robert.
Pierre Bonny.
Charles le Duc.
Pierre Bretaud.
Jean Frichoux.
Guillaume Stephan.
Pierre-Marie Lastennec.
Jean Gohonnec.
Yves Le Bihan.
Jean Luco.
André'-Marie le Brice.
Bertrand Daniel.
Jean Garnier.
Louis le Bot.
Alain Abgral.
Charles-Ant. Chauvry.
Pierre Achard.
Guillaume Pichard.
Hilarion-Marie Noret.
Jean-Pierre Chevreuil.

*Quarter gunners.*

Cé'sar-Augustin De Rozier
Michel-Berrin.
François-Joseph Vautron.
André' Roth.
Jean Blondeau.
Michel Niterhoffer.
Pierre Prieur.
Marens Chaub.
Jean-Pierre Fraichot.
Pierre Guillemin.
Jean Gillet.
Joseph Rayes.

*Super-*

*Supernumeraries.*

JEAN QUERENNEUR, coasting pilot.
JACQUES LE CAR, second surgeon.
JEAN LOUVIGNI, first clerk.
SIMON ROLLAND, cooper.
JOSEPH VANNEAU, baker.
JEAN-PIERRE DURAND, master armourer.
JEAN-MARIE BLEAS, blacksmith.
RENE'-MARIE COSQUET, master carpenter.
JACQUES QUINION, cook.

*Domestics.*

PIERRE CAZAURANT.
JEANE-FRANÇOIS BISALION.
RENE' DE ST. MAURICE.
BENJAMIN, (a negro).
FRANÇOIS BRETEL.
MICHEL SIRON.
LOUIS DAVID.

*Supplement.*

GUYET DE LA VILLENEUVE, taken on board at Manilla, the 7th of April, 1787.
JEAN-CHARLES MASSEPIN, fusileer
DOMINIQUE CHAMPION, *idem.*
PIERRE LEBIS, *idem.*
JEAN JUGON, *idem.*
PIERRE MOTTE, *idem.*
Six Chinese sailors.

L'ASTROLABE,

## L'ASTROLABE.

Meſſrs.

DE LANGLE, *capitaine de vaiſſeau*, commander.

*Lieutenant.*

DE MONTI, made *capitaine de vaiſſeau.*

*Enſeignes.*

FRETON DE VAUJUAS.

DAIGREMONT.

DE LA BORDE MARCHAINVILLE, ſupernumerary.

BLONDELA, *lieutenant de fregate.*

*Gardes de la Marine.*

DE LA BORDE BOUTERVILLIERS, made *lieutenant de vaiſſeau*, the firſt of May, 1786.

LAW DE LAURISTON, *idem.*

RAXI DE FLASSAN, ſupernumerary, made *lieutenant de vaiſſeau*, the firſt of May, 1786.

*Scientific men and artiſts.*

MONGE, profeſſor of the military ſchool, aſtronomer, ſet on ſhore at Teneriffe, the 29th of Auguſt, 1785.

DE LA MARTINIÈRE, doctor of phyſic, botaniſt.

DUFRESNE, naturaliſt.

LE

LE P'ERE RECEVEUR, of the order of cordeliers, naturaliſt, and performing the functions of chaplain.

PREVOST, (the uncle) botanical draughtſman.

LAVAUX, ſurgeon in ordinary of the navy.

LESSEPS, vice-conſul of Ruſſia, interpreter; ſet on ſhore at Kamtſchatka, and commiſſioned to carry the diſpatches of M. De La Pérouſe to Paris.

*Warrant officers.*

FRANÇOIS LAMARE, *maître d'équipage.*

FRANÇOIS MARIE AUDIGNON, *idem*, ſupernumerary.

SE'BASTIEN ROLLAND, *contre-maître.*

GUILLAUME-MARIE GAUDEBERT, *idem.*

MATHURIN LE'ON, *premier pilote.*

ADRIEN DE MAVEL, *ſecond pilote,*

PIERRE BROSSARD, *aide-pilote,* made *ſous-lieutenant de vaiſſeau.*

JEAN L'AINE', *aide pilote.*

*Gunners.*

JEAN GAULIN, ſerjeant of marines, *maître canonnier.*

LE'ONARD SOULAS, corporal, *ſecond canonnier.*

JACQUES MOREL, *aide-canonnier.*

PIERRE CHAUVIN, *idem.*

PIERRE PHILIBY, *idem.*

FRANÇOIS SAULOT, *idem.*

CHRIS-

CHRISTOPHE GILBERT, corporal, *aide-canonnier.*
JEAN PIERRE HUGUET, drummer, *idem.*

*Carpenters, caulkers, and ſail makers.*

ROBERT-MARIE LE GAL, maſter carpenter.
JEAN BERNY, carpenter's mate.
FRANÇOIS BIZIEU, *idem.*
JEAN LE CAM, *idem.*
JEAN-FRANÇOIS PAUL, maſter caulker.
LOUIS MEVEL, *idem.*
JEAN GROSSET, maſter ſailmaker.
OLIVIER CREACHADEC, ſailmaker's mate.
YVES QUELENEC, maſter caulker.
FRANÇOIS LEBOUCHER, caulker's mate.
BASTIEN TANIOU, boatſwain's mate.
YVES BOURHIS, ſailmaker's mate.

*Topmen, ſteerſmen, and ſailors.*

LOUIS ALLES.
PIERRE-MARIE RIO.
JEAN MOAL.
JOSEPH LE QUELLEC.
GUILLAUME DUQUESNE.
CHARLES-JACQUES-ANTOINE RIOU.
FRANÇOIS LE LOCAT.
YVES-LOUIS GARANDEL.
GILLES HENRY.
GOULVEN TARREAU.
JEAN-MARIE BASSET, ſet on ſhore at Macao, in China, 19 Jan. 1787.
PIERRE-MARIE-FIDÈLE PAUGAM.
JEAN-LOUIS BELLEC.
JOSEPH LE BLOIS.
JEAN-MARIE LETANAFF.
GUILLAUME-LAMBERT NICOLE.

BERTRAND LEISSEIGUE.
JULIEN RUELLAND.
JEAN LE BRIS.
DENIS LE CORS.
JEAN LE GUYADER.
PIERRE BANNIOU.
JOSEPH RICHEBECQ.
FRANÇOIS-MARIE VAUTIGNY.
YVES HAMON.
JEAN HAMON.
CLAUDE LORGI.
JEAN BERNARD.
JEAN GOURMELON.
ALAIN CRE'E, deserted at Conception, in Chili, March the 14th, 1786.
JEAN MONENS.
LOUIS MEZON.
GUILLAUME QUEDEC.
PIERRE FOUACHE.
JEAN REDELLEC.
GUILLAUME AUTRET.
FRANÇOIS FERET.
MATHURIN CAUSIAU.
GUILLAUME RICHARD.
LAURENT ROBIN.
JULIEN MASSE'.
JEAN-THOMAS ANDRIEUX.

*Quarter gunners.*

PIERRE GUIMARD.
LOUIS DAVID.
JOSEPH FRETCH.
LOUIS SPAN, deserted at Conception, the 14th of March, 1786.
CHRE'TIEN THOMAS.
JEAN-BAPTISTE PLINER.
CODERANT LENDEBERT.
JEAN-GAUTIER PLUMEUR.
JULIEN LE PENN.
FRANÇOIS BIGNON.
PIERRE RABIER.

*Supernumeraries.*

FRANÇOIS QUERRE', coasting pilot.
JEAN GUILLOU, surgeon.
JEAN-MARIE KERMEL, purser's steward, died of the effect of a wound from a musquet, the 7th of September, 1787.

PIERRE CANEVET, cooper.
RENE' RICHARD, butcher.
NICOLAS BOUCHER, baker.
JACQUES LE RAND, armourer.
FRANÇOIS-MARIE OMNES, blackſmith.
FRANÇOIS MORDELLE, cabin-boy.

*Domeſtics.*

YVES RIOU, ſet on ſhore at Teneriffe the 30th of Auguſt, 1785.
SIMON-GEORGES DEVEAU.
JEAN GERAUD.
JEAN SOL, died the 11th of Auguſt, 1786.
JEAN-LOUIS DROUX, ſet on ſhore at Macao, the 1ſt of February, 1787.
FRANÇOIS POTORELLE.
JOSEPH HEREAU.

*Supplement.*

DUPAC DE BELLEGARDE, *garde de la marine*, made *lieutenant de vaiſſeau*, the 4th of Auguſt, 1786, from the flute the *Maréchal de Caſtries*, embarked at Macao the 1ſt of January, 1787.
LE GOBIEN, *garde de la marine*, made *lieutenant de vaiſſeau* the 5th of March, 1788, from *la Subtile*, embarked at Manilla the 8th of April, 1787.
PIERRE DESLUCHES, fuſileer.
MICHEL-E'TIENNE PHILIPPE, *idem*.

François Marin, *idem.*
Six Chineſe ſailors, embarked at Macao.

## NARRATIVE

*Of an intereſting voyage * in the frigate La Princeſa, from Manilla to San Blaz †, in* 1780, *and* 1781.

As ſoon as I arrived at Manilla, the commander of the frigate which had carried me thither, landed the marine forces he had brought with him, ſtationed them at Cavite ‡ to defend it, and appointed me major of thoſe troops. He ordered me at the ſame time to draw the plan of that port and its environs. The object of this was to determine on the moſt favourable ſituation for placing the veſſels deſigned to oppoſe the landing of an enemy.

* The Spaniſh originals of this narrative, and of the extract following, were ſent by M. De La Pérouſe; the tranſlation is the work of A. G. Pingré, and the correſponding chart, conſtructed according to this narrative, and the ancient journals, is the performance of Buache, member of the national inſtitute. *(Fr. Ed.)*

† Manilla, in the iſland of Luconia, is the capital of the Philippines: San Blaz is a ſeaport, on the weſtern coaſt of Mexico.

‡ Cavite is a port three leagues from Manilla.

The

The governor fitted out the frigate la Princeſa, for an expedition which he conſidered neceſſary to be kept a ſecret. When the ſhip was ready to put to ſea, I very unawares received orders to take the command of it. My ſurprize at this unexpected appointment, the ignorance I was in with reſpect to the object of the expedition, the fear of ſeeing my miſſion interrupted, ſhould there be a neceſſity for an engagement, were to me the ſource of a thouſand diſquietudes: but the governor repreſented to me, that the expedition would do me ſo much the more honour, as the object was the more intereſting; that if the enemy ſhould purſue me, a thing he would not fail to do, the ſkill and activity of my manœuvres would be a proof of my capacity; and that, in ſhort, the ſucceſs of the expedition would be of great advantage to our Sovereign. Theſe expreſſions ſo powerfully incited me, that I conſidered myſelf honoured by the governor's ſelecting me for an expedition like this, in ſuch critical circumſtances. I accepted the command, and put to ſea the 24th of Auguſt, after having received a ſealed packet from government, which contained the inſtructions and orders I was to follow, and the port to which I was directed to repair. I was not to open this packet till I ſhould be at twelve leagues diſtance from Cavite.

The 25th, being at the prescribed distance, I opened the packet. I was enjoined to make the port of Sisiran*, where I should wait the farther orders of government, keeping myself always on guard, ready to repel the attack of the enemy, who would, doubtless, attempt to intercept me, should they come with a hostile armament to Manilla.

The winds died away, and, becoming contrary, prevented my getting out of the passage between the islands. I still kept my course, working as much as possible to windward; but I could not get the better of the current, which forcibly carried me back, coming from the point of Escarseo†, which I found impossible to double. I was therefore obliged to anchor on the 29th, at two o'clock in the morning, near this point, opposite the harbour of Galeras, in twenty-five fathoms over a sandy bottom.

The 30th, at half after three in the morning, the wind changed to the west; but it was so violent, that the ship drove from her anchors. I was

* Sisiran is a port on the east coast of Luconia, almost immediately opposite to Manilla, being but 16 minutes more southerly than that city.

† This point, the Porto de las Galeras, the Islands of Tiaco and San Bernardo, are situate in the channel or strait, which separates the Island of Luconia from the other Philippines.

desirous

ceirous of getting under ſail, but the ſtrength of the current prevented me, drifting me alſo towards the harbour. I was in ten fathoms water, and let go an anchor which would not hold, owing to the current and the wind which freſhened more and more, inſomuch that I ſoon found myſelf in only five fathoms water.

I dropped another anchor, and with the help of the ſheet anchor, which I inſtantly let go, I increaſed my diſtance from the ſhore, which was little more than the ſhip's length from me: and although I ſtill lay within the point of Alagican, which forms the port of Galleras, I could, notwithſtanding, get under way, but it was at the expence of leaving one bower anchor, the ſheet anchor, two bower cables, and a ſheet cable, entangled in the rocks*. At nine o'clock in the morning, I doubled the point; and though the wind had moderated in paſſing to the third quarter†, nevertheleſs, by a preſs of ſail, I reached

* Much is abridged here, as well becauſe the detail would be immaterial and tedious, as becauſe there are ſome paſſages that I do not underſtand, either for want of comprehenſion on my part, which, however, I do not take to be the caſe; or from the fault of the copier in having mutilated the original.

† The Spaniards divide the horizon into 4 quarters; the firſt extends from the north to the eaſt, the ſecond from eaſt to ſouth, the third from ſouth to weſt; and the fourth from weſt to north.

an anchorage the 31ſt, at eight o'clock in the evening, under ſhelter of the iſland Tiaco, ſo as to be able to get out the next day.

The 1ſt of September I ſet ſail again, and at four o'clock in the afternoon, I was a quarter of a league to the northward of San Bernardo. Thence I ſhaped my courſe for paſſing between the Iſlands Catanduanes*, and Luconia; as this courſe would conduct me the narroweſt paſſage between the breakers and that iſland, I lay to at ten o'clock, and I found myſelf on the 2d, at day break, at two leagues diſtance from Catanduanes. I made all the ſail I could, and at half after eleven, I had reached its moſt north-weſterly point, and I paſſed within a very little diſtance from the iſlets cloſe to that point. Thence I ran to the weſt-ſouth-weſt, and to the weſt, keeping my wind to gain Siſiran. I nearly reached the port about ſix o'clock in the evening. I ſtood off and on all night: the next day, the 3d, I anchored at two o'clock in the afternoon, and moored the frigate in the beſt manner I could, in expectation of the final orders which were to be ſent me.

On my arrival, I began to exerciſe the crew in every thing which might contribute to our

* This iſland is ſituate over againſt the moſt ſouth-eaſterly part of the Iſland of Luconia, its northerly point is almoſt upon the ſame parallel as Siſiran.

defence

defence in caſe of attack, ſo that if ſuch an event had taken place, all were ſufficiently experienced in the uſe of arms. I wrote alſo to the governor, to apprize him of my arrival at Siſiran, and to deſire his final orders.

Siſiran is ſituate in the vicinity of very high mountains, which render the air extremely damp, and appear to be the cauſe of the continual hurricanes which I experienced during my ſtay in this port. The conſtant wet weather alſo occaſioned diſeaſes amongſt my crew, of which one ſeaman died.

We were thirty or thirty five leagues from the neareſt inhabited parts, to communicate with which it was neceſſary to climb over ſteep mountains, infeſted with ſavages, which rendered the communication very difficult. In conſequence, I met with the greateſt difficulty in procuring ſome few of the refreſhments which I thought would be uſeful to us, in the courſe of ſo long a voyage.

For replacing the two bower cables and the ſheet cable that I had loſt, I requeſted of the alcade (or commandant) of the province, to order new ones to be made; he did ſo, and ſent them to me as ſoon as they were finiſhed. I deſired alſo a ſupply of anchors; there was not one however to be found, to his knowledge, in the whole extent of his juriſdiction.

On

On the 10th of November, an officer came on board, and put into my hands a large box, containing ſome diſpatches relating to his Majeſty's ſervice. The governor general gave me orders to carry this box with all poſſible haſte to his excellency the viceroy of Mexico; and for that end to make ſail for the Port of San Blaz, or Acapulco, according as I ſhould find it moſt expedient. I immediately made preparations for this voyage, but two ſucceſſive tempeſts would not allow me to enter on it, before the 21ſt of November.

To ſail from the Philippines to Mexico, it is neceſſary to begin the voyage in June: the weſterly winds, which then blow, carry the ſhips to the eaſt of the Marian Iſlands: in every other ſeaſon the navigation is ſcarcely practicable.

I therefore conſidered myſelf as going to undertake a voyage abſolutely new, over tracks of the ocean almoſt unknown till that time. And admitting it may have happened, that ſome navigator has held a courſe in ſome meaſure analogous to my own, is it likely he would have had the ſame winds? would he have ſteered the ſame courſes? would he have run through the ſame parallels, the ſame meridians as I did? I may therefore conclude, that the track I purſued had never been traced before by any navigator.

As

As I had nothing more at heart than to execute faithfully the orders I had received, and to render my expedition of advantage to his Majesty's service, and conducive to the welfare of his subjects, I was animated by this sentiment, to overlook the apprehensions I felt from my absolute ignorance as to the course I was going to take. My knowledge from experience extended no farther than to New Britain; and, even in this run, I met with a multitude of islands, of which there did not exist the smallest vestige in any of our charts.

M. De Bougainville, who sailed from the east of New Guinea as far as the Cape of Good Hope in the same island, only gives us the position of two little islands, which he named *Les Anachorètes*, and of a group of other little low islands, to which he gave the name of *Mille Isles**. He has undoubtedly placed them in their true latitude: but exclusive of these islands, not a day passed wherein I did not discover others, with which I found myself surrounded, as my chart will evince, to the satisfaction of every one who inspects it. The only point I had to attend to, and which, in fact, I did, from the first instant of my undertaking the expedition, was to

* Bougainville did not give the name of *Mille Isles* to this group, but that of *L'Echiquier*.

employ

employ the moſt ſcrupulous attention, and to exerciſe the moſt active vigilance during the whole courſe of our navigation, ſo that I might acquit myſelf ſucceſsfully of the commiſſion with which I was intruſted, in deſpite of the continual obſtacles I ſhould have to encounter.

Had I been diſpatched from a port where I could have furniſhed myſelf with every thing neceſſary for ſo long a voyage, I ſhould have eſcaped the anguiſh excited by numerous diſtreſſes. My crew were attacked with diſeaſes more or leſs ſevere, the proviſion, limited preciſely to a ſix months voyage, was for the moſt part found to be eaten into by inſects, and rotten; the water was limited to ſeventy pipes and forty barrels, a proviſion, conſidering the waſte, inſufficient for a voyage of ſo long duration; and the cordage of the ſhip was ſuch, that it broke at the firſt moment of our attempting to make uſe of it. I had deſired the alcade to furniſh me with ſome tar, of which we were abſolutely in want, but none was to be found in the province: I was obliged to ſupply its place with pitch. Though all theſe reaſons tended to diminiſh my hopes, my zeal for the King's ſervice ſuffered no abatement; and I prepared my mind to encounter all the calamities with which the nature of our proviſion, and the ſtate of our rigging ſo plainly threatened me.

*Departure from the Port of Sifiran, ſituate on the eaſtern coaſt of the Iſland of Luconia, in 14° 20′ north-latitude, 126° 34′ weſt of Cabo San Lucas, in California, 121° 20′ eaſt of Paris, and 20′ weſt of San Bernardo, in the mouth of the ſtrait.*

I put to ſea on the 21ſt of November, with fine breezes from the eaſt-north-eaſt, and eaſt, which in a little time became ſtrong; and as they were directly contrary, I ran upon different tacks to get to the northward, and clear the Iſland of Catanduanes. Theſe winds carried me to the latitude 16° 14′, which I found by obſervation on the 30th. I then bore away to the ſouth-ſouth-eaſt, and ſaw the iſland again on the 3d of December; it bore from me ſouth-eaſt by ſouth, diſtant five leagues. I concluded, that the currents* had drifted me 2° 26′ to the weſt, notwithſtanding the correction which I had made of my north-north-weſt courſe. In this poſition where I was delayed by the winds, which did not allow me to ſteer to the ſouth-eaſt, I was further

* Beſides the currents, the leeway had, without doubt, much influenced the direction of the courſe: but it was apparently upon the reckoning of this leeway that the courſe had been corrected.

obſtructed

obſtructed by a heavy and mountainous ſea, and by winds extremely boiſterous, which obliged me often to lie to under the foreſail, ſuffering every poſſible difficulty to get to windward, ſo as to be able to continue my voyage.

The 9th of December, after having made ſeveral boards, I found myſelf again in ſight of Catanduanes, and took my laſt departure from it; the moſt ſoutherly point of the iſland bearing weſt-north-weſt 3 deg. weſt, diſtant ten or twelve leagues; which put me in 13° 24′ latitude, and 122° 26′ longitude eaſt of Paris, 46′ eaſt of San Bernardo.

We had then tolerably freſh breezes from the ſouthward and weſtward; I took the advantage of them, to run to the eaſtward till the 14th of December, when the winds veered again to the eaſt-north-eaſt, eaſt, and eaſt-ſouth-eaſt. Theſe changes obliged me to run to the ſouthward, keeping cloſe to the wind.

The 18th, according to one of the charts by which I ſhaped my courſe, I ought to have been to the eaſtward of the Iſland called *The Martyr*, at ſeven leagues diſtance; and between the 20th, and 21ſt, I ought to have paſſed by that called *The Triangle:* but by another chart, I was on the 19th in the proximity of the Iſland of Yap, or the Great Caroline; and on the 20th, abreaſt of the Iſlands of Pelew, without having ſight of any of

theſe

these islands: but the short and heavy sea we here met with, could only be owing to the proximity of the Caroline Islands, or New Philippines, such as they are placed upon the French chart.

The 29th, I crossed the line, and passed into the southern hemisphere. The winds then blew from the southward and westward: they were tolerably brisk, but interrupted by frequent calms, which incommoded us much by the excessive heats they occasioned. I then steered to the eastward, not losing sight however of the design I had to get by degrees to the southward, in order to fall in with the westerly winds, which might be expected to prevail in high latitudes. While steering this course, we remarked a great many large trunks of trees, birds of different species, boobies, and others called *dominicos*.

In this same course I proposed to explore the *Mille Isles*, the most northerly and easterly of which Bougainville places in his chart in 1° 10′ south, and .....* to the east of Paris. I saw them accordingly on the 7th of January, they extended from 38 degrees of the second quarter, to nine degrees of the third†. The latitude of that,

* The longitude is blank in the manuscript; it is 139° 30′, according to Bougainville's chart. In other respects, the *Mille Isles* are obviously the same as his *Echiquier*.

† That is, they extend from the east 38 degrees south, to the south nine degrees west.

which

which was the moſt to the north-eaſt, was found to accord preciſely with that which the chart gave it; but its longitude was, according to my ſtatement, 141° 12′ to the eaſt of Paris. I determined to coaſt along theſe iſlands at as little diſtance from them as poſſible. I took an infinite number of bearings, which, combined with the way the frigate made, enabled me to determine, with the greateſt accuracy, the poſition of twenty-nine of theſe iſlands which we had diſcovered.

There are in all probability many others in this ſouthern quarter, of which we were not able to get ſight. It is not poſſible to delineate on the charts the extent of each of theſe iſlands, ſome of which ſcarcely reach a league in length. All are low, and covered with trees; ſome of them ſurrounded with reefs which join them to contiguous iſlands. The ſea breaks over theſe reefs, and they are only ſeen a little way off. I drew nearer and nearer to theſe iſlands, ſo as to ſail by them at the diſtance of only two miles from the moſt northerly. At ſeven o'clock in the evening I diſcovered a great number of fires on the moſt eaſterly of the iſlands, and could not withold my aſtoniſhment on finding ſuch ſmall parcels of land inhabited.

Quitting theſe iſlands, I ordered the ſhip to be ſteered eaſt by north; and on the 8th of the month [January] we diſcovered to the ſouth, three degrees

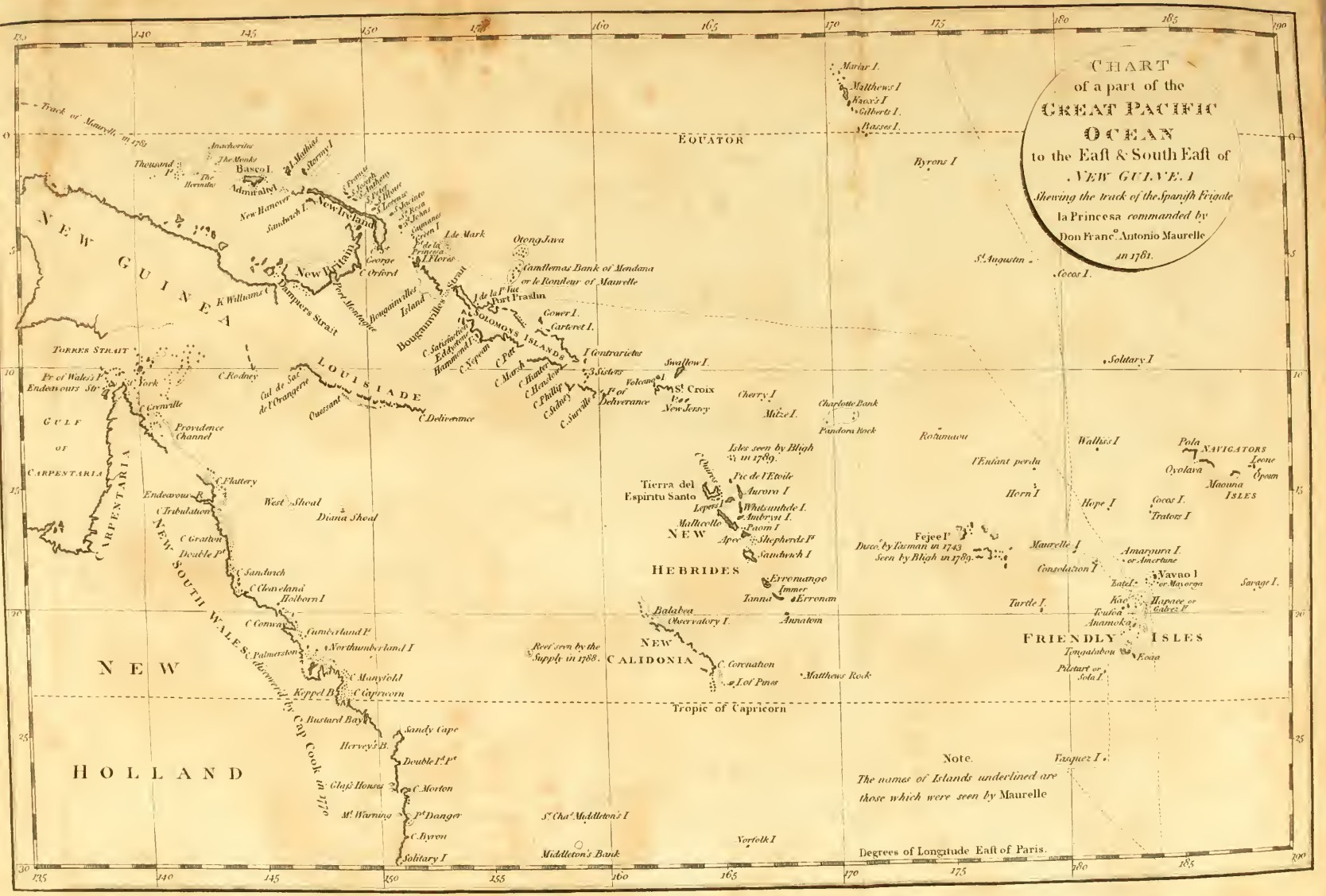
CHART
of a part of the
GREAT PACIFIC
OCEAN
to the East & South East of
NEW GUINEA
Shewing the track of the Spanish Frigate
la Princesa commanded by
Don Franc.o Antonio Maurelle
in 1781.
EQUATOR
Tropic of Capricorn
NEW GUINEA
NEW HOLLAND
NEW SOUTH WALES
GULF OF CARPENTARIA
CARPENTARIA
LOUISIADE
SOLOMONS ISLANDS
NEW HEBRIDES
NEW CALIDONIA
FRIENDLY ISLES
NAVIGATORS ISLES
Track of Maurelle in 1781
Basco I.
Admiralty I.
New Ireland
New Britain
Dampiers Strait
Bougainvilles Strait
Port Praslin
Otong Java
Candlemas Bank of Mendana
or le Rondeur of Maurelle
Gower I.
Carteret I.
I Contrarietes
3 Sisters
Swallow I.
St. Croix
New Jersey
Cherry I.
Mitze I.
Charlotte Bank
Pandora Rock
Rotumaou
Wallis I.
Pola
Oyolava
Leone
Opoun
Maouna
Hope I.
Cocos I.
Trators I.
Solitary I.
Cocos I.
St. Augustin
Byrons I.
Marlar I.
Matthews I.
Kaox's I.
Gilberts I.
Basses I.
Isles seen by Bligh in 1789.
Pic de l'Etoile
Aurora I.
Whitsuntide I.
Ambryn I.
Paom I.
Shepherds Is.
Sandwich I.
Tierra del Espiritu Santo
Lepers I.
Mallicollo
Apee
Erromango
Immer
Tanna
Erronan
Annatom
Balabea
Observatory I.
C. Coronation
I. of Pines
Matthews Rock
Fejee I.
Disco. by Tasman in 1743
Seen by Bligh in 1789.
Maurelle I.
Consolation I.
Amargura I. or Amertune
Vavao I. or Mayorga
Late I.
Kao
Hapaee or Galvez Is.
Toufoa
Anamoka
Tongatabou
Eoaa
Pilstart or Sola I.
Tartle I.
Savage I.
Vasquez I.
Norfolk I.
Middleton's Bank
St. Chas. Middleton's I.
Reef seen by the Supply in 1788.
Pr. of Wales's I.
Endeavours Str.
York
Grenville
Providence Channel
C. Rodney
Cul de Sac de l'Orangerie
Ouessant
C. Deliverance
C. Flattery
Endeavour R.
C. Tribulation
West Shoal
Diana Shoal
C. Grafton
Double Pt.
C. Sandwich
C. Cleaveland
Holborn I.
C. Conway
Cumberland Is.
Northumberland I.
C. Palmerston
C. Manyfold
Keppel B.
C. Capricorn
Bustard Bay
Sandy Cape
Hervey's B.
Double Id. Pt.
Glass Houses
C. Morton
Mt. Warning
Pt. Danger
C. Byron
Solitary I.
Note.
The names of Islands underlined are those which were seen by Maurelle
Degrees of Longitude East of Paris.

RPJCB

degrees eaſt, at the diſtance of five or ſix leagues, two iſlets, which I named the *Hermitanos*; the evening of the ſame day we ſaw the Anchorets to the northward and weſtward, diſtant five miles: I found them preciſely in the latitude aſſigned to them by Bougainville. We ſaw at the ſame inſtant four ſmall iſlands to the eaſtward: I had paſſed to the ſouthward of them at midnight, at the diſtance of a league; I named them *Monagos* (the Monks).

From this ſhore I bore away for the north cape of New Britain; but, on the 10th, ſcarcely had the day appeared, when I diſcovered other iſlands to the ſouth-ſouth-eaſt*. I ran the ſame day, and the day following, the length of the moſt weſterly, at a reaſonable diſtance. I took all poſſible meaſures to ſatisfy myſelf of its true ſituation, by taking bearings and diſtances, and I can be poſitive, that its north coaſt is eleven leagues long. The iſland is, without doubt, large in proportion; for beyond the plains, which extend themſelves as far as the ſea ſide, many tolerably high mountains are ſeen; the chart repreſents the perſpective. Beyond this iſland are four other low iſlands the coaſts of which appear in

* It is in the manuſcript *ſudoeſte*: it is neceſſary, without doubt, to read *ſudeſte*, or *ſud-ſueſte*, ſouth-eaſt, or ſouth-ſouth-eaſt; all that follows proves, that this iſland could not lie to the weſt of the frigate.

ſucceſſion: they are covered with trees; the ſhore is bold, and free from reefs: I doubt not, but in the channels which ſeparate theſe iſlands, good anchorage may be found, where ſhips might be ſufficiently ſheltered from the ſea and the winds.

The inhabitants of theſe iſlands ſeeing me on the 11th, at the diſtance of two miles from their moſt eaſterly point, approached in their canoes, to the number of twelve, beſide many others which did not put off. Curious to know what was the character of theſe iſlanders, I brought to; they came cloſe alongſide, but would not come on board; they only entreated us with great earneſtneſs to give them ſome food, and preſſed us to go and anchor between their iſlands. Some cocoa-nuts were thrown to them from the frigate, and a few pieces of biſcuit, which they ſcrambled for with avidity, and almoſt fought with each other to obtain them; but when they perceived at the poop a net containing ſome garden ſtuff, they made every effort with long hatchets to get it into their poſſeſſion. All this was a convincing proof of the ſad condition in which they lived: ſo far, therefore, from expecting refreſhment from theſe iſlanders, I ſaw they had more need of it themſelves than I had. I was therefore, from neceſſity, obliged to abandon them to their miſerable lot. I could obſerve no difference between them and the negroes of Guinea: colour, hair,

hair, lips, and eyes, all appeared alike in every part. Every weapon theſe people had were darts or arrows, without bows for ſhooting them; they were armed at the point with very clumſy flints: they had alſo ſome fiſhing nets, which furniſhed them doubtleſs with the principal food on which they ſubſiſted.

Purſuing my courſe on leaving this iſland, which I named *Don Joſeph Baſco*, I diſcovered in the evening of the ſame day ſix others. To the more weſterly of the two the furtheſt to the ſouth I gave the name of *San Miguel*, and to the more eaſterly, that of *Jeſus Maria*. Their coaſts are undoubtedly more extended than I had concluded from the bearings I could take; for their mountains are very lofty, and the diſtance I was from them did not allow me to take in all the extent of theſe coaſts.

I at the ſame time ran along the coaſts of two other iſlands, at the diſtance of two miles: I gave to the more weſterly the name of *San-Gabriel*, and to the more eaſterly of *San-Raphael*: between theſe and the two preceding there were two very ſmall ones; that to the north called *Iſla Baxa* (Low Iſland); and that to the ſouth *Iſla de Horno* (*Oven Iſland*); and then ſteering to the eaſtward, I found myſelf at midnight to the northward of three iſlands, which I called *Tres Roys* (the Three Kings).

The 12th I paſſed a very little iſlet, bearing ſouth 38 weſt, diſtant ſix leagues.

The ſame day at half paſt one in the afternoon we deſcried another iſland to the north-eaſt, three degrees eaſt, at the diſtance of eight or nine leagues. It offered to our view a very high mountain, and ſuſpecting it to be the Iſland of Matthias, which the French chart places to the north of New Britain, I ſteered to the eaſt-north-eaſt, that I might get near to it, and ſatisfy myſelf as to its ſituation. At ſix o'clock in the evening the mountain bore from us north 22 degrees, diſtant from ſix to ſeven leagues; and its ſituation, determined after our bearings, left no reaſon to doubt, but that it was the Iſland of Matthias.

I continued to ſail in the ſame direction, with the deſign to get a ſight of the *Iſle Orageuſe*, (Stormy Iſland), placed more to the eaſt upon the French chart. This iſland is certainly properly named: all the night we experienced heavy guſts of wind and a high ſea. Yet on the 13th, notwithſtanding the fogs, and the frequent ſhowers of rain, which began from the firſt dawn, we diſcovered, to the north-weſt by north, at ſeven leagues diſtance, another iſland, which appeared to us ſmaller than the Iſle Orageuſe is repreſented upon the chart; but its diſtance, added to the circumſtance of the horizon being far from clear,

might

might make it ſeem ſmaller to us than it was in reality. I at laſt judged this to be the Iſle Orageuſe, or a little iſland very near to it.

Since, according to our bearings and diſtances, I found the ſouth point of the Iſland Matthias, was in latitude 1° 23′, and that the French chart places it in 2° 10′, I thought I ought to give up the laſt, and I have placed the iſland upon my chart in the latitude concluded on from the obſervation I had juſt made at noon, and which I believe very exact*. I proportionally corrected the latitude of Iſle Orageuſe. The poſition of theſe two iſlands, ſo near one to the other, has, no doubt, been ſubject to the ſame miſtake.

Comparing my longitude by account of the Iſland of Matthias, 144° 20′ eaſt from Paris, with that of 145° 35′, which is given to it upon the chart†, I found that my ſtate of it, according to the chart, was in an error 1° 15′ towards the weſt. Suppoſing, that thoſe who diſcovered this iſland had exactly fixed its diſtance from

* The latitude of the ſouth point of the Iſland of Matthias is 1° 38 upon Bougainville's chart.

† The longitude of the ſame point is, upon the ſame chart, 145° 10′. The Iſle Orageuſe is repreſented on it double, the middle of the more eaſterly iſland is there 1° 45′ lat. and 145° 37′ longitude. Bougainville ſaw theſe iſlands, but he paid no attention to them.

Cap de Bonne Eſpérance of New Guinea*, I corrected the longitude 143° 39′ eaſt of Paris, that I had obtained at noon, againſt that of 144° 54′, which reſulted from the longitude of Iſle Matthias. I diſtributed this ſeaſonable correction over the poſition of the iſlands I had precedently diſcovered. I fixed therefore my new point of departure in longitude 144° 54′.

The ſame day, the 13th of January, we had ſight of a large coaſt: the horizon in the ſouth, both to the eaſt and weſt, was loaded with heavy clouds, with fogs, and tornadoes.

If the weather cleared up, it was but for a moment, it changed again, inſomuch that it was impoſſible to diſtinguiſh what land I ſaw. I believe, nevertheleſs, that it was the coaſt of New Britain, as well becauſe that the following days we continued to diſcover parts of land which could only belong to a large iſland, or a continent, as that in coaſting theſe lands we diſtinguiſhed very high mountains, ſuch as are very rarely ſeen in ſmall iſlands.

The 14th, in the afternoon, we ſaw to the ſouth-weſt a very lofty mountain, and a coaſt which extended a good way to the eaſtward and

* Modern navigators would rather be governed as to the diſtance of this iſland from Cap Saint George, the geographic poſition of which is better determined, than that of Cap de Bonne Eſpérance of New Guinea.

weſtward. There was no doubt but this was part of the coaſt of New Britain. I could not aſſure myſelf of its exact bearing, being at the diſtance of twelve leagues from it. I paſſed at the ſame time near three iſlands, which bore from me ſouth by weſt. The moſt northerly, which I called *San Franciſco*, was at two leagues and a half diſtance; that in the middle, I called *San Joſepho*, and the third *San Antonio*: the laſt was ſeven leagues and a half diſtant. After having paſſed them, we ſaw at midnight a little iſland bearing eaſt by ſouth 10 degrees; I called it *San Pedro*.

The 15th we ſaw two iſlands; at noon they bore ſouth-weſt eight degrees ſouth, diſtant ten leagues. The more weſterly was called *San Laurent*, the more eaſterly *San Blaz*.

From the 15th to the 17th, the winds were light and variable, between the north and weſt: on the 17th, we got ſight of a ſmall iſland, which I named *San Iacinto*; it bore from us weſt 32 degrees ſouth, at the diſtance of ten leagues.

The 18th we diſcovered, at eight miles diſtance, three other iſlands, one of which lay north and ſouth: the moſt weſterly was named *San Roſa*; the large one *Iſla del Refugio*; and the ſmall one, very near to the former, *La Madelena*. The ſame day we ſaw, to the ſouth-weſt of the Iſla del

Refugio, a coaſt covered with very high mountains; I ſuppoſed I might be at twelve leagues diſtance from the ſhore, its extremities bore north 65 degrees eaſt, and ſouth 65 weſt; this is the only means I had to determine the poſition of this iſland. I doubted at firſt whether this land did not make part of New Britain; but I was afterwards aſſured that it was the iſland of *Saint Jean*, which the French chart repreſents as a large iſland, and which it places in the parallel where I obſerved it *; ſo much the more was I aſſured of this, as we had ſeen an infinite number of little iſlands ſince that of Matthias, and we had ſeen none the latitude of which and diſtance from the Iſland of Matthias could occaſion it to be taken for the Iſland of Saint Jean.

The 19th at ſun riſe we ſaw, at the diſtance of ſix leagues, two very low iſlands, both of which ran north-weſt and ſouth-eaſt; they were ſeparated by a very narrow channel, which was open

* It is deſirable to know what was this French chart by which our navigator directed his courſe. The Iſle Saint Jean is placed, according to a chart by Fleurieu, in 3° 45′ of latitude, 150° 32′ to the eaſt of Paris; but according to the Voyage of Carteret, (French edition in 4to) the chart of which is on a larger ſcale, the latitude is 4° 19′, the longitude 153° 3′ eaſt of Greenwich, 150° 43′ eaſt of Paris. Carteret had had a ſight of this iſland. The author of *Découvertes des Français*, page 286, is decidedly for 4° 0′ of latitude, and 151° 30′ eaſt of Paris.

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to the ſouth weſt; we named them *Las Caimans*.

The ſame day at ſun-ſet we had ſight, to the ſouth, of two iſlands; the more northerly was very ſmall; I named it *Santa Anna*, and the other *Santa Barba*; according to our bearings the coaſt of the latter was ſeven miles in length.

The 20th at day break the middle of a great iſland, to which I gave the name of *Don Manuel Flores*, bore ſouth 5 deg. weſt, thirteen leagues diſtant; a pretty high mountain was remarked on it; its coaſt appeared to us to lie eaſt-ſouth-eaſt, and weſt-north-weſt to the extent of ſix leagues.

At eight o'clock in the morning we had a view of nine iſlets, which I did not doubt of being L'Ontong-Java of the French chart. The latitude of theſe iſles is preciſely the ſame as that which is given to the centre of Ontong-Java upon the chart. I ran directly down for them, that I might get as near them as poſſible; and I obſerved they were ſurrounded by a ſand bank which could only be diſcerned at the diſtance of two miles from the ſhore. Near the edges of this bank here and there, at a little diſtance from each other, may be ſeen above water ſeveral little rocks, not far from the bank itſelf.

On the ſouth ſide of this bank there is a narrow opening, abreaſt of which we found the latitude 4° 53′; we were only at two cables length

distance from this entrance; it leads to a gulf where the sea is perfectly smooth, and where a secure harbour may be found, if it be required to stay to take in wood and water. This gulf is sheltered to the north by the islets; we gave it the name of *Puerta la Princesa*. An exact account of this harbour is given on our chart; we passed by it near enough to answer for the exactness with which it is drawn*.

From these islets, which are not a mile from one another, came out more than sixty canoes, which approached us within less than a musket shot; but as the wind was favourable, I did not

* Ontong-Java (or Jaba, it is the same thing to the Spaniards) was discovered, we are told, in 1616, by Le Maire and Schouten. They counted 12 or 13 islands; but they had by no means so favourable an opportunity of reconnoitring them closely as our navigator. At a distance they could not have perceived the very low slips of land, which joined two parts of the same island, and of one island only they made two. In 1767, Carter discovered in these same seas nine islands, which he believed to be the Ontong-Java of Schouten. These islands extended from north-west by west, to south-east by east, for the space of about fifteen leagues, and one among them is very extensive; whereas Ontong-Java has not three leagues of extent, and all the islands which compose it are very small. Notwithstanding all this, we shall endeavour to prove, that the nine islands of our navigator, those of Carteret, and those of Le Maire and Schouten, are only one and the same group, different from the Ontong-Java of Tasman.

think

think I ought to loſe time in waiting for them. I filled my ſails and ſtood on my courſe, and they returned to their iſlets, upon which it appeared to me impoſſible that human creatures could ſubſiſt. We ſaw a pretty conſiderable number of palm trees, which, without doubt, produced them fruit, and this with the ſupply from fiſhing enabled theſe creatures to drag on a miſerable life.

After having quitted Ontong-Java, I continued my courſe with gentle and favourable winds during the day, but violent through the night, which obliged me to keep a good look-out, and to recommend an equal vigilance to my officers, and ſhip's company. They eaſily conceived the greatneſs of the riſks we run; in conſequence, no ſooner did an object preſent itſelf in the horizon, than it was announced; the iſland was ſeen, and the danger was avoided.

I ſailed on till the 22d, without having the ſight of any land; but that ſame day, the night being dark, we heard at ten o'clock a frightful roaring in the north-eaſt, and we ſaw, broad on the ſhip's quarter, and at no great diſtance, the ſea quite white with foam. I was obliged to ſtand to the ſouth-weſt, until we ceaſed to hear the noiſe of this ſhoal, which I named *Le Ronfleur**

* Fleurieu thinks that this Ronfleur is the ſame rock as the Candlemas Shoals of Mendana, which is not very improbable.

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(the Snorer); I afterwards laid the ſhip's head to the eaſtward as it was before.

If the divers incidents which counteracted my voyage be conſidered, an idea may be eaſily formed of the conſtancy with which I have invariably aimed at two objects equally indiſpenſable, and yet greatly oppoſed, the one to the other. My commiſſion demanded celerity, and in conſequence obliged me to crowd ſail without loſing an inſtant. On the other hand, the tornadoes under the line only take place in the night; the winds freſhen then extremely, render the air dark and gloomy, and lance forth thunder and lightning. Theſe winds were all day almoſt calm: I could therefore only avail myſelf of the night to make any progreſs. I met with land during the day, I met with it alſo during the night. Prudence without doubt would have dictated to me not to expoſe myſelf to dangers, which might in an inſtant fruſtrate the deſign of my voyage; but yielding too much to its ſway would alſo have occaſioned a delay irreparably prejudicial to the object of my commiſſion. I took therefore the reſolution to ſupply the defect of an idle caution, by oppoſing the moſt active vigilance to all the obſtacles which might threateningly intervene, and to avail myſelf of the winds, as often as they ſhould be favourable.

The remaining part of January the winds were faint,

faint, and blew between the north-north-weſt and the north-eaſt; I could follow no other than an eaſterly courſe, or within two points of it. I therefore made ſouthing in my latitudes, without it being poſſible for me to get to the northward, the wind coming conſtantly from that quarter, except a few puffs which blew from the weſt and from the eaſt, and of which I took advantage, in order to near the line; but the calms were ſo frequent, that the longeſt run I ever made in twenty-four hours was ſeventy miles.

From the beginning of February the calms were more conſtant; from the 6th to the 17th, our greateſt day's run was forty miles; it was commonly but from twelve to fifteen miles. Theſe calms retarded me greatly; it was in vain I ſtrove to paſs to the northward of the line, hoping to get to the weſtward of the flats or ſhoals of Saint Barthelemi *: the light winds from the north, from the north-north-weſt, and from the north-north-eaſt, forced me to follow ſo weſterly a courſe, that I loſt in longitude the eaſting I had gained, at the price of riſks ſo multiplied. Theſe reaſons induced me to ſtand again upon a north-eaſterly courſe, hoping that a wind from the eaſtward

* Here it is gueſs; the manuſcript affording no intelligible ſenſe; I believe, however, I have gueſſed pretty right.

might

might preſently facilitate my croſſing to the northward of the line.

As my voyage was ſo much prolonged, I had had, from the 20th of January, the precaution to retrench two ounces of bread of the ordinary allowance of thoſe who compoſed my crew, beſides one ounce leſſened in every pound from the firſt inſtant of our embarkation; but on the 16th of February, ſeeing the weather grew no better, and conſidering that we had only been victualled for ſix months; that ſeventy pipes and forty barrels of water, which had been ſhipped on board us, did not ſuffice, or ſcarcely, for that ſpace of time; that at the place where I then was, 3° 32′ ſouth latitude, and 174° 8′ longitude eaſt of Paris, there remained ſcarcely three months proviſion, and a very inſufficient quantity of water, I concluded I was juſtifiable in ſtill diminiſhing the allowance, which I did, reducing it from this day to two-thirds.

A circumſtance which further increaſed our diſtreſs, was the innumerable quantity of cockroaches* with which our ſhip was infeſted. The biſcuit

* The cockroach, cancrelas, or kakerlaque, is a coleopterous inſect, very much reſembling the chaffer or May-bug, but larger and flatter; it ſoils and devours every thing. It is called, as we are told, *ravet* in the Antilles; the cancrelas of the Iſle de France, however, appears larger than the ravet of Saint Domingo; it is nevertheleſs as great a torment.

weighed

weighed much leſs than when it was ſhipped: but that which diſcouraged me the moſt, was the condition of our water-caſks; we often found them empty, and not only had the water entirely run out of ſome of them, but others were wholly unfit for ſervice; theſe depredators had perforated the ſtaves with holes, into which two fingers might be admitted.

Taking all theſe occurrences into my moſt ſerious conſideration, I judged it was not poſſible for me to continue my courſe towards the north of the line, without putting into ſome port to replace the water I had loſt. I could not flatter myſelf with gaining the Marian Iſlands in time; the reſult of my reflection, therefore, was, that I ought to make for Solomon's Iſlands; I reckoned them to bear weſt, at a hundred and ſeven leagues diſtance; I hoped that the winds, which blew from the northward, would allow me to put in there, and that I might thence with more expedition and certainty gain the Preſidency of Monterey.

I therefore made ſail for Solomon's Iſlands; but the north-eaſterly winds blowing without the ſmalleſt interruption, drove me gradually to the ſouthward. The 20th of February, I found myſelf to be ſeventeen leagues to the weſtward of Cape Santa Cruz, or Guadalcanar. We then began to meet with breezes from the eaſt-north-eaſt and eaſt, which occaſioned

occaſioned me to loſe all hope of putting in at Solomon's Iſlands, and even of getting a ſight of them. Being then in latitude 12° ſ uth, I was compelled to take the reſolution of getting farther into the ſouthern hemiſphere, being perſuaded that we ſhould meet with ſome iſlands, at which we might relieve the extreme ſcarcity we were reduced to; and hoping, at the ſame time, that after having run down 20 or 22 degrees of latitude, we ſhould meet with favourable winds for making to the eaſtward, a circumſtance which I could not promiſe myſelf in ſailing to the northward, unleſs I puſhed on to 44 or 46 degrees, by keeping conſtantly cloſe to the wind, which would have made me loſe a vaſt deal of time; and even in adopting this courſe it would ſtill have been neceſſary to put in at the Marians.

After theſe reflections, and others which inceſſantly tormented me, I took the reſolution to lay the ſhip's head to the ſouthward and eaſtward, ſteering ſuch courſes as the eaſterly winds might allow me to follow. The 26th of February I ſaw a ſmall iſland; I ran down upon it, in hopes of caſting anchor, and taking in water. The crew were overjoyed; it ſeemed to them as if this iſland were to put an end to all their wants and ſufferings; their preſent mirth equalled the diſtreſs they had been in, but it was of ſhorter duration: getting within the diſtance of two miles,

we

we ſaw clearly not only that there was no anchorage, but that even a ſhip's boat could not land. The iſland was in the utmoſt degree barren; upon its mountain, which was not ſmall, a ſingle tree was not to be ſeen. From the bitterneſs of our diſappointment, we called it *Amargura*.

On the 27th, we diſcovered an iſland right ahead; upon it was a very high mountain, the top of which appeared burnt, but its ſlope, being covered with trees, preſented an agreeable verdure. We could diſtinguiſh a great many cocoa-nut trees upon it; they increaſed the deſire I had to put in there, but the faintneſs of the wind prevented me from going nearer than a league's diſtance towards the weſt ſide of it. From that ſide, however, came out many canoes, with cocóa-nuts and bananas: the trade of barter began immediately. The Indians, full of confidence in us, came on board; the one who had authority over the reſt expreſſed the tendereſt friendſhip for us; he danced upon the deck, and ſang ſeveral ſongs: among other preſents, he gave me a ſort of large counterpane, reſembling blotting-paper, but compoſed of two or three kinds of leaves, interwoven one upon the other, ſo as to give more ſtrength to the compoſition. I was not behind him in civility, and he withdrew well ſatisfied. He told me, that this iſland was called *Latté*; that he was the chief of it; that it was fertile in fruits of different kinds,

abounded in freſh water, and that I might find good anchoring ground. This intelligence gave me much pleaſure; but in reality I ſaw no place where I could lie in ſafety. In the ſtretches we made round the iſland for a commodious anchorage, we diſcovered to the eaſt-north-eaſt, at the diſtance of twelve leagues, other iſlands, leſs high, but of greater extent, leaving ſeveral channels between them; the wind was faint, but favourable for approaching them. The perſpective of theſe iſlands promiſed me abundance of relief; I bore down upon them.

Calms, and now and then light contrary winds, which I had had from the firſt of March, laſted many days; but at length, on the 4th, after ſeveral tacks, I ran up a ſmall entrance which theſe iſlands form to the north-weſt, and anchored in forty-five fathoms water, a ſhort diſtance from the land. From our anchorage might be ſeen, within the gulf, houſes and abundant plantations of banana and cocoa trees, very flattering appearances of water, and this laſt was neareſt our hearts. In ſhort, we perceived, in the midſt of this group of iſlands, divers harbours where ſhips might be ſheltered from ſea and wind, ſo that we perſuaded ourſelves we were verging to the end of our wretchedneſs.

The evening of the ſame day we dragged our anchor, and as we deepened our water ſuddenly and

and conſiderably I got an offing while heaving the anchor in ſight, ſo that it might be ready to let go again. As ſoon as it was hove up, I tacked again for the port, and on the 5th, at day break, I anchored in thirty-eight vares, (about twenty-three fathoms*) ſandy and ſtony bottom, two cables length from the ſhore, in the creek where the day before I had ſeen houſes.

In the courſe of the time I loſt in getting cloſe to theſe iſlands, there came every day alongſide of us from fifty to a hundred canoes, bringing us hogs, fowls, bananas, cocoas, potatoes, which had the taſte of pap †; ſome of theſe potatoes were five vares (fifteen feet) in length, and their thickneſs equalled that of the thigh of a man of a full ſize; the ſmalleſt weighed three pounds. They offered us alſo cloths woven from the bark of a palm-tree, others of a finer make, and laſtly, thoſe cloaks or counterpanes reſembling blotting paper, of which I have already ſpoken; they ſet the higheſt value themſelves upon theſe counterpanes. All this traffic was carried on over the ſhip's quarter. The iſlanders, in exchange for their fruits,

* But I believe it ought to be thirty-eight fathoms.

† The Spaniſh word popa, or papa, ſignifies a ſpecies of panada made with milk, which is given as food to young children. It is allowable to ſuſpect an exaggeration with regard to the reputed length of theſe patates.

and the produce of their manufactures, desired to have hatchets, axes, and other cutting instruments; but I forbad, under the severest penalties, the giving any to them, and I have reason to believe my injunctions were obeyed. They were therefore obliged to be contented with scraps of cloth and stuffs. My people cut their shirts, their trowsers, their jackets to pieces, and with these little rolls or bandages they procured themselves hogs and other refreshments. On account of this provision, I wholly suspended the allowance of meat, and reduced that of the bread to one half.

The Indians who came on board pressed me much to go into the middle of their archipelago; each of them shewed me his island, and assured me, that I should find water and every thing of which I had need: the *equis*, or captains, manifested the strongest friendship for me as they arrived, and I endeavoured not to be behind-hand with them. Many of them sat at my table; but they ate only their own fruits. I conceived these Indians were divided into numerous casts or tribes, seeing how many of these equis bore authority; yet I observed, on the other hand, a good understanding and affability among them.

We had visits also from the women; their countenances did not appear at all disagreeable to us. Their clothing consisted in a species of petticoat, which encircled their waist to the knees;

the men were dreſſed in the ſame manner. I admired the portlineſs of the latter; ſome among them, whom I had meaſured, were ſix feet four inches high, and luſty in proportion, and theſe even were not the talleſt of the Indians. It is very certain, that the ſhorteſt among them equalled the talleſt of my crew. In general, it may be ſaid theſe iſlanders are tall and robuſt.

As ſoon as I had caſt anchor, I received a preſent of fruits ſent by the Tubou; and the meſſenger, as I was told, was his ſon. Of this name of *Tubou*, which the equis repeated with a very particular affection, it may be aſked, what could it ſignify? I believed at firſt, that it deſignated the equi of the iſland near us, who neceſſarily had ſome pre-eminence over the other equis, ſeeing the reſpect manifeſted by all thoſe who ſpoke of him. Whatever he might be, I gave the beſt reception poſſible to his ſon, with the view to conciliate his friendſhip, that I might meet with no hindrance in our arrangements for taking in water, but that he might, on the contrary, favour them with all his authority.

As early as eight o'clock in the morning, the frigate was ſurrounded with more than a hundred canoes: the cries of thoſe who manned them, and who held their market around the ſhip, were ſo piercing, that it was ſcarcely poſſible to hear one another aboard. Nevertheleſs, at that hour they

apprized us that the Tubou was coming to make us a viſit; as ſoon as he approached, all the canoes which were on the ſtarboard ſide of the ſhip, retired to a diſtance. I received the Tubou with all poſſible civility. His age and enormous ſize had deprived him of the agility requiſite for getting up into my ſhip; ſo much ſo, that it was neceſſary for his equis, whom I had conſidered till that time as little kings, to raiſe him by the ſhoulders, while he aſcended the ſide. He was followed by his wife, whoſe countenance ſurpaſſed in beauty thoſe of all the women we had ſeen upon this iſland; and I ſhould almoſt have ſworn on the ſpot that ſhe was the daughter of ſome European, ſo ſtriking were the graces I remarked in her; as ſhe was at moſt in her twenty-fifth year, her youth added to her other charms. They both ſat down upon the watch bench, and all the others profoundly proſtrated themſelves, kiſſing the feet of the Tubou. He brought me as a preſent, a boat* full of potatoes. From gratitude, I decorated both of them with a flame-coloured ſilk ſcarf, reaching from the neck to the waiſt, to which I ſuſpended, by a carnation ribband, two piaſters, bearing the ſtamp of the image of our auguſt Sove-

* The Spaniſh term *canoa* is always tranſlated by that of boat, but theſe boats of the South Sea were probably only *canoes*.

reign.

reign. I diſtributed at the ſame time ſeveral reals† with the like image, to ſerve, in the courſe of time, as irrefragable proofs of our having put into thoſe iſlands. The ſubordination to, and reverential reſpect of the equis for the Tubou, were ſuch, that no one among them dared to ſit down in his preſence; his ſon even, who before his arrival affected a majeſtic gravity, was now as obſequious as the reſt. I may ſay with truth, that the Tubou ſcarcely deigned to honour them with one or two words. I conducted them to my cabin; they were ſtruck with admiration at the equipment of the frigate, and the various things I ſhewed them. In ſhort, quite ſatisfied with our reception, they went away, after having given us the moſt unequivocal aſſurances of the ſtricteſt friendſhip, and after a thouſand kiſſes and embraces which the good old man unceaſingly gave me.

To avoid thoſe exceſſes which the crews of ſhips often give themſelves up to when they go aſhore, I publiſhed an order, by which I threatened with the moſt ſevere puniſhment any one, who ſhould give to theſe iſlanders the leaſt diſturbance under any pretext whatever.

I cautioned my people nevertheleſs to keep upon their guard at all events; and to give to the

† The piaſtre contains twenty reals; the real is worth a little more than two-pence halfpenny Engliſh money.

Indians an idea of the force of our weapons, I directed a few cannon ſhots to be fired againſt the rocks; the fragments of rock and ſtone which the bullets and canniſter ſhot made to fly about, inſpired them with the greateſt dread; they entreated me not to repeat the firing. This diſcharge, made in preſence of twelve or fifteen hundred perſons, produced the deſired effect; it rendered our arms formidable in their eyes, and I hoped that, throughout, they would never put me under the diſagreeable neceſſity of employing them hoſtilely.

On the 6th, I took from among my people fifteen picked men, well armed with piſtols, ſwords, muſkets, and cartridges, and I embarked with them in the long boat, armed alſo with ſwivels. We landed on the beach which I found covered with men and women, whom I compelled to keep at a diſtance, and arranged my men in order and under arms, at ten vares* diſtance from the boat; the ſwivels were pointed againſt the crowd of Indians, to be uſed in caſe we ſhould perceive any hoſtile movement.

The ſon of the Tubou offered himſelf to conduct one of our people to a running ſpring of water, but, as after having walked half an hour and aſcended a little hill, he told him it was as much farther ſtill to the place, my envoy thought pro-

* The vare is about three feet.

per

per to return to the ſhore, where I waited for him. I however had a well dug upon the ſtrand; when it was worked to a level with the ſea, the water oozed into it, but it was not fit to drink. I directed another well to be dug at the diſtance of twenty vares from the beach; my object was to avoid weighing my anchor, and going with the frigate into the middle of the archipelago, where the Indians nevertheleſs aſſured me I ſhould find good water in plenty. Many days would be required for moving my ſtation, and I wiſhed to make the beſt uſe of my time.

On the 7th I went in my long boat, with a well armed detachment, and accompanied by an Indian, to one of the places where I had been told I ſhould find water; but this was at too great a diſtance from the frigate. I had a few caſks filled, and I returned to the harbour in the reſolution to renew the digging of the pit already begun. I went on ſhore the ſame day, always with the ſame precautions; the work of the pit-digging went on, which I left in a condition apparently to afford water the next day.

The Tubou or King came to pay me a viſit in great ſtate: the equis were ranged in two files, and the extremities of each file occupied by venerable old men; thoſe who marched near the King were of this deſcription. The Tubou, as a proof of his tender friendſhip, overpowered me with careſſes, embracing

embracing me a hundred times. His attendants now ſeated themſelves, forming a large circle, in the order they had arrived. Two carpets of palm were brought, the King ſat down on one, and made me ſeat myſelf on the other upon his right hand. All kept a profound ſilence, only thoſe who were near the Tubou, whoſe great age rendered them reſpectable, exactly repeated all his words. Preſently, ſome roots were brought, with which, in a kind of trough, they made a drink, bitter enough no doubt, if it might be judged of by the countenances and geſtures of thoſe who drank of it.—This refreſhment was ſerved up in veſſels made with the leaves of the banana tree; three or four young Indians offered the firſt to me and the Tubou; I did not however taſte it, the ſight was alone ſufficient to diſguſt me. The iſlander, the neareſt to the Tubou, pointed out thoſe who were to drink of it, and none was ſerved to any other perſon — They afterwards put boiled potatoes and perfectly ripe bananas before me: of them I ate ſome; a little time after I ſaw two canoes making towards us, filled with proviſion of the like nature, deſigned for diſtribution among my ſoldiers.

After this refreſhment, the Tubou retired to his home; I returned his viſit, leaving the firſt pilot at the head of my party, with orders not to allow any perſon to approach under any pretext whatever.

The

The Tubou gave me the beſt reception poſſible, the Queen appeared ſoon after, preceded by eight or ten young girls, about ſixteen or eighteen years of age; they were all employed in waiting upon her, ſome of them drove away the flies which incommoded her, and ſhe leaned herſelf by turns upon the others; ſhe was wrapped in ſeveral mantles, which conſiderably enlarged her ſize: She received us with a ſmiling countenance; and gracefully repeated the word *liley*, *liley*, *liley*, which ſignifies *well*, *very well*, *or welcome*. After this firſt, or ceremonious viſit had taken place, I made but very few others to the Tubou, leſt he ſhould ſtrip himſelf of all his clothes to put on me, for ſuch was the manner of his conferring the moſt ſignal favours.

The King gave me two large gilt-heads* and one of his weapons which was nothing elſe than a ſtaff of *acana*† painted of various colours. I retired to the ſhip in the hope of filling water the next day.

The 8th in the evening our pit was completed; we laded water to the great aſtoniſhment of the

* *Dos dorados*. The Spaniſh word *dorado*, taken adjectively, ſignifies *gilt*; ſubſtantively the tranſlator knows no other ſignification than *gilt-head*, a known fiſh.

† This wood is not known by the tranſlator.

Indians,

Indians, but it was ſo brackiſh and bad that we were obliged to renounce the idea of ſhipping it for uſe.

The ſame day I paid a ſecond viſit to the King and Queen, who never failed to ſend me, every evening, an abundant quantity of broiled potatoes, they having without doubt obligingly conſidered the number of perſons I had to feed on board.

As ſoon as I was convinced of the inſalubrity of the water ſo near the ſhore, and had no hope of obtaining it at any reaſonable diſtance by the ſame means, owing to the proximity of a riſing mountain, I weighed anchor, and dropped it in another bay a league and a half or two leagues off. As ſoon as one of the anchors was out of the ground, its cable, which was uſed for the firſt time, abſolutely gave way, the ſtrands which compoſed it having all broken in two; the cable was found entirely rotten throughout its whole length, and unfit for ſervice. I ſwept for the anchor but in vain. I could not remain there a long time, and the depth of the water left no hope of our being able to recover it again eaſily.

The new bay was perfectly ſheltered from gales of wind and from the ſea; I experienced this a few days after; for though it was very bad weather at ſea, blowing from the north and north-weſt, we felt no effects from it otherwiſe than by a few puffs

puffs which reached us in that direction. I anchored in thirty two fathoms, over a ſandy and ſtony bottom; the banks which form the harbour from the north ſide defended us; all around the bottom was rocky.

On the 9th we began to water; it was only five vares diſtant from the ſhore. The work went on faſter than I expected, the equis having ordered their Indians to roll our caſks; but when the Tubou came, no perſon but himſelf durſt give any order.

On the 10th, 11th, and 12th, we ſhipped all the water we intended to take in; an infinite number of canoes came nevertheleſs to the frigate to make exchanges, and their confidence in us was ſuch that many ſlept and paſſed the whole night on board.

On the laſt of theſe days, the King invited me to an entertainment which he had prepared to give me; upon going on ſhore on the 12th, I ſaw, in the thicket or wood, a large open ſpace which had been deſignedly cleared, inſomuch that there did not remain a ſingle piece of a trunk ſtanding. A little after the Indians, two by two, repaired to the Tubou's houſe, carrying upon their ſhoulders long poles, from which hung a great many potatoes, bananas, cocoas and fiſh; the Tubou directed them to carry theſe to the newly laid out camp, and they made of them a heap in a cubic form, two vares in height.

The

The equis and the venerable old men conducted the Tubou to me as before, who took me by the hand, and led me to the newly formed circle, all the way attended by two thouſand Indians. We ſat down upon carpets of palm leaves prepared expreſsly for the purpoſe; all the people were allowed to do as much, but always preſerving a diſtinction between the caſts or families, the one not being permitted to intermix with the other.

The King then made me an offer of all theſe fruits, and our long boat was accordingly filled with them. The porters being returned to their reſpective poſts, a profound ſilence was obſerved while the King ſpoke; thoſe whoſe age or dignity had given them the right to be ſeated neareſt the King, repeated diſtinctly all his words.

I knew not to what all this tended, but nevertheleſs I ordered thoſe of my ſoldiers who had the firſt pilot at their head, to be ready to diſcharge their muſkets and piſtols if they perceived any hoſtile movement.

There now advanced from the ranks a robuſt young man, his left hand upon his breaſt, and ſtriking that elbow with his right hand. He made a thouſand gambols upon the place oppoſite to the groups who were not of his tribe. One from among theſe laſt having preſented himſelf to notice by the ſame geſtures, the two began to wreſtle, cloſing in with each other, body to body,

body, thruſting and pulling backwards and forwards in all directions, with ſo much animoſity, that their veins and muſcles appeared inflated to an extreme degree. At length, one of the combatants fell down ſo violently, that I, at the inſtant, believed he never would have riſen again; he did get up however, but covered all over with duſt, and ſo abaſhed, that he retired without once daring to turn his head. The conqueror then came up to do homage to the King, and thoſe of his tribe commenced a ſong, but I could not diſcern from their manner whether it was in honour of the victor, or to ſhame the vanquiſhed.

Theſe wreſtling combats laſted two hours, one of the antagoniſts had his arm broken; I ſaw others receive terrible blows. While the ſtruggle laſted, other champions advanced in the ring, their fiſts wrapped round with large cords, ſerving them as a kind of gauntlet, anciently uſed by the athletæ. This ſpecies of combat was much more terrible than the wreſtling: as ſoon as the conflict commenced, the combatants ſtruck each other on the forehead, eye-brows, cheeks, on every part of the face; and thoſe who received theſe formidable ſtrokes, became more impetuous and enraged: I ſaw ſome irrecoverably felled by the very firſt blow they received. The ſpectators throughout looked upon theſe combatants with a certain portion of reſpect, but all were not promiſcuouſly admitted as champions.

The

The women, thoſe eſpecially who waited upon the Queen, were ſpectators of this tournament. I ſaw that ſex in a different and ſuperior light to that in which I had before beheld them: I had before not conſidered them as diſagreeable; but, on this day, they were adorned with all their beſt attire, having their mantles adjuſted in neat plaits and folds, and becomingly attached by a knot over the left ſhoulder. They wore garlands, or wreaths on the head, and chaplets of large glaſs beads round their necks, the hair was pleaſingly diſpoſed in treſſes, and the whole perſon perfumed with an oil of an agreeable odour; above all, the ſkin was ſo exquiſitely clean, that they would not have ſuffered the ſmalleſt particle of duſt to remain upon it a moment. They ſtrove to engage my whole attention, and I may be allowed to ſay, they did not appear the leſs attracting on that account.

The King gave orders that certain women ſhould fight with their fiſts as well as the men; and they did it with ſo much fury, that they would not have left a tooth in each others head, had they not been ſeparated now and then. This fight touched me to the very ſoul: I begged the King to put an end to the combat; he acceded to my requeſt, and all of them did me honour for the compaſſion I had ſhewn to theſe young females.

The

The tubou afterwards directed an old woman to ſing for our entertainment: from her neck was ſuſpended a tin cruet, (probably to contain ſome fluid required to moiſten her mouth and throat). She never ceaſed ſinging for half an hour together in one ſtrain, accompanying her ſong with actions and geſtures, which might have made her paſs for an actreſs declaiming on a theatre. The diverſion ended, we returned to the king's houſe: I found the queen there ready to receive me, which ſhe did with her accuſtomed ſigns of benevolence. I aſked her why ſhe was not at the entertainment; ſhe anſwered me by ſaying, theſe ſort of combats were far from agreeable to her. The ties of friendſhip now became ſtronger than ever, inſomuch, that the tubou called me his *hoxa*, that is to ſay, his ſon. I preſently took leave of him and of the queen, and returned on board my ſhip. The ſhore all the way was covered with Indians, who offered thouſands of careſſes and kindneſſes to my people for having condeſcended to be preſent at their ſpectacle. The conquerors took me upon their ſhoulders, and lifted me into my long boat. The tubou, who from his houſe ſaw the crowd, and well knew how much I ſuffered when the Indians mixed with my people, ordered his captains to drive away the intruders, and he fell into ſuch a paſſion on the occaſion, as to come out, with a great ſtick in his

hand, ſtriking all thoſe who fell in his way. They fled into the woods, except two, more roughly handled than the reſt, who were left for dead upon the ſpot; I am at a loſs to know whether they recovered or not.

Every thing was in readineſs for our putting to ſea, and I reſolved to do ſo on the thirteenth, had not a gale of wind from the north and from the north-weſt ſprung up, blowing directly into the paſſage through which I was to go out. The wind grew ſtronger and ſtronger, and yet at our anchorage the ſea was ſcarcely rougher than common; but notwithſtanding all that, and though I had three anchors down, the ſheet cable gave way, and I remained riding by the *hope**, and the ſmall bower.

On the 15th, the wind fell, but while I was preparing to get under way to ſea, the cable of the *hope* broke, ſo that I had only the ſmall bower anchor to hold my ſhip. Theſe accidents, added to the diſappointments I had met with in the courſe of my voyage, deeply diſconcerted me. All my cables were rotten, as well as all the haliards, ſheets, tacks, braces, and lifts, in a word all the cordage of the ſhip†. This bad ſtate of my rigging

* This is the name of an anchor in Spain.

† A long detail of the damage and accidents of the ſhip's tackling and rigging is paſſed over, as well as an endleſs liſt of

ring left me in the ſad expectation of loſing my laſt anchor; under ſuch an occurrence, nothing but certain ruin was to be expected in ſo diſtant a clime. To ſupply the firſt preſſing neceſſity, I had a cable carried to the neareſt rock; it ſerved conjointly with my remaining anchor to hold my ſhip for the time. I employed people alſo to endeavour to ſweep for the two loſt anchors; they laboured at the work for twenty-four hours without effect, the water was too deep.

The uneaſineſs of mind with which I was afflicted, prevented my yielding to an invitation from the tubou to be preſent at an entertainment ſimilar to that which he had given before; but this prince who called me his ſon, and who without doubt loved me almoſt as much as if I had really been ſo nearly allied to him, never failed to ſend me every evening two baſkets of roots, ſome fowls, and ſome fiſh. He ordered all the proviſion, which had been amaſſed for this intended ſecond great fête, to be brought to me: he came himſelf often on board the frigate, he dined with me ſeveral times, and took his afternoon's nap on board.

On the 16th I tried to get out; the wind not being fair, I plied to windward, and though

of complaints of the author, which could not be amuſing to the reader; beſides, there are a great many faults in the manuſcript, and I am not ſufficiently ſkilled in nautical phraſeology to correct them all.

the current counteracted my way, and the paſſage was ſo narrow that I had ſcarce room to tack, I found myſelf on my laſt ſtretch to windward of all the points; but a violent ſquall taking me a-head, drove me down towards the rocks between which I was ſailing. I found myſelf now more diſtreſſed than ever: I had no other courſe to take than to return to my old harbour, to let go the anchor, and immediately carry a cable to land to hold me in the beſt manner poſſible.

On the 18th I ſent my firſt pilot in the boat to ſound another channel, ſheltered, it is true, by many iſlands, but which notwithſtanding allowed us an eaſy outlet by means of the wind which then prevailed. The pilot, when returned, aſſured us that in the whole channel the bottom was good, free from banks, and the paſſage wide enough to tack, if neceſſary. I prepared, therefore, to go out the day following, viz. the 19th; and on that day at two in the afternoon I had gotten clear of all the iſlands; in my ſituation it was what I deſired the moſt.

The Indians and the tubou did not expect this ſeparation; it was without doubt affecting to them; the king and the queen took leave of me with the ſtrongeſt demonſtrations of ſorrow, and the Indians in their canoes accompanied us till we were out of their archipelago.

This

This harbour, which I named *El Refugio*, is formed by three conſiderably large iſlands, and by many other ſmaller ones. I gave to the whole cluſter the name of *Don Martin de Mayorga*. The harbour is ſituate in 18° 36′ ſouth, and 179° 52′ eaſt of Paris. The ſafeſt ſhelter is to be found in it from all weathers: the winds may blow in vain with the greateſt fury, the ſea will not be the leſs calm; even a hurricane would not be felt. In going out between theſe iſlands, whether by the channel to the north-weſt, or by that to the ſouth-weſt, there is water of fifty-five fathoms, with a flinty, ſtony, or gravelly bottom. The ſame bottom goes all the way to the centre of the gulf, two cables length from the land, where the depth is but thirty-five or forty fathoms; the water ſhoals even to twelve or fifteen fathoms in ſome of the creeks. There are in this place neither ſhoals nor reefs, it is neceſſary, however, to chooſe an anchorage with the lead going, becauſe in ſome coves the bottom is in part earth*, and part ſand.

The fertility of the land is ſuch, that its cultivation cannot fail to promiſe a favourable harveſt. Every where are ſeen an endleſs number of cocoa-nut trees, beautiful banana trees, ranged in lines with the greateſt order, numerous plantations of

* Should it not be *rock*, inſtead of *earth*?

potatoes, as may be conceived from the great quantities ſent to us on board every day; other roots very ſweet, and nearly of the ſame ſpecies, alſo abound there. Lime trees, ſugar canes, fruits nearly reſembling apples, oranges, and ſhaddocks.

In a word, two or three equis having once conducted me into a fertile part of the country, I admired the order with which every thing was diſpoſed; no weeds were ſuffered to grow between the plants: their roads too were kept in repair with a diligence deſerving imitation by the moſt civilized nations. Noticing the zeal they evinced for agriculture, I gave them ſome garden beans, ſome maize, ſome ſeeds of pimento, and of rice; explaining to them their uſes, and aſſuring them, that they would grow and proſper in their ſo much better ſoil.

They alſo cultivate ſhrubs, ranged in the ſame order as the banana trees, the bark of which ſerves them for weaving their cloaks or counterpanes; they make of it alſo a ſort of petticoat.

The conduct of theſe Indians, during the whole time of our ſtay in their harbour, teſtifies the confidence they repoſed in us: it was not in my power to ſhew the ſame for them. I never went on ſhore but with an armed detachment, which inſpired them with terror, in conſequence they never

never gave us any ground to complain, if it were not from their inclination to ſteal, a paſſion which the Indians cannot ſurmount. Every time they came on board, clothes, iron-work, whatever fell in their way, they conſidered as lawful prize. They drew out through the port-holes, or the windows, whatever was within their reach. They thieved even to the very chain of the rudder: I made my complaints to the king; he gave me permiſſion to kill whomſoever I ſhould detect in the act; and I was aſſured he had himſelf diſcovered and puniſhed with death the authors of the complained of theft. Our vigilance was neceſſarily called into action; we ſurpriſed the iſlanders ſtriving to tear away the new rudder chains; we fired a piſtol at them, one of them fell dead on the occaſion, and this was an awful leſſon for thoſe who were either on board, or alongſide of the frigate; they ſaid to themſelves, or to one another *chito* (robber) *fama* (death).

I did all in my power to diſcover whether they had any ſort of religion, whether they worſhipped any creature or falſe god; we ſaw nothing which could make us even ſuſpect any adoration of this nature.

We eaſily pronounced the words of their language, they pronounced thoſe of ours alſo equally eaſy; a ſtay of a few months would have enabled us to make uſe of either indifferently. If my

misfortunes had not wholly abſorbed my mind, I ſhould have collected together numerous words of their tongue, which might have ſerved as a vocabulary for holding a converſation with theſe Indians.

In the few interviews I had with them, I got the names of all the parts of the human body, and of the cardinal numbers up to ten.

They aſſured me, that two frigates had touched and refreſhed at their iſlands, that the captains, with five or ſix officers each, had ſlept on ſhore; that they had received from them chaplets of glaſs beads, ſome hatchets*, and adzes.

On the 16th of March, when I was getting ready to depart, they told me, that two ſhips ſimilar to my own were then making ſail to the north-weſt; and they enumerated ſo many particulars of the fact, that it was impoſſible to doubt the truth of it.

The equis commonly wear a mother-of-pearl ſhell about the neck: they have the little finger of both hands cut off cloſe to the root.

The tubou endeavoured in every poſſible way to engage me to retire with the frigate to the place of his uſual abode, where he urged, that I

* It may be concluded from this that the frigates were Spaniſh, and probably alſo the two veſſels about to be ſpoken of.

ſhould

ſhould find a much greater plenty of eatables. I ſhould certainly have accepted his firſt invitation in the proſpect of finding better ſhelter, and more eſpecially for the greater facilities the change offered for putting my rigging in order, which circumſtance other Indians as well as he did not fail to hold up to me and aſſure me of, but the nature of my commiſſion did not permit me to follow my own inclination.

During the ſhort ſtay I made in this harbour, I was not able to diſcover what were preciſely the functions of the equis, how they were diſtributed, of what nature was the authority of the tubou, or how far his power extended. The laſt days in particular of my remaining in port my chagrin was ſuch, that I thought of nothing elſe but how I ſhould put to ſea again. Otherwiſe it may be affirmed with truth that, except for the ſad accident of parting my cables, which expoſed me to a thouſand dangers, I ſhould never have made a more happy ſtay in port; ſince beſides a ſufficient proviſion of water, and the repairing twenty-five pipes empty and unfit for uſe, we found more refreſhment for the crew, than we could have had in our own harbours: there was conſequently no cauſe to regret the half allowance which I ceaſed to diſtribute; there was a ſuperfluous proviſion for many days: the ſcorbutic, who by the ſurgeon's report were in a deſperate ſtate, recovered

vered their health while there. We, in ſhort, met with a prince ſo much diſpoſed in our favour, that he unceaſingly claſped me in his arms, offering me at the ſame time every thing he had at his command.

*Departure from Port Refugio, in the Iſlands of Don Martin de Mayorga, in latitude* 18° 38′ *ſouth, and* 179° 52′ *eaſt of Paris.*

The 20th of March, having gotten clear of all the iſlands, I kept cloſe hauled with the wind from the eaſt-north-eaſt, running to the ſouth-eaſt, or to the points of the compáſs neareſt. In this courſe we diſcovered, bearing ſouth 60° 30′ eaſt, a very elevated iſland, diſtant fifteen or ſixteen leagues; and at ſun-ſet, three other iſlands were viſible, extending from the ſouth to the weſt-ſouth-weſt, five degrees weſt, and five degrees diſtant from the moſt eaſterly.

This view obliged me to put about at nine o'clock at night. At one o'clock I again tacked to the ſouthward, to get near to theſe iſlands. We perceived in the iſlands neareſt to us above forty-eight fires.

The 21ſt, at ſun-riſe, we counted ten iſlands on the ſtarboard hand, and ſix on the larboard; we croſſed to the ſouthward of them by the large channels they form between them. We ſaw none

a-head

a-head of us until arrived in a vaſt gulf we diſcovered, at the diſtance of about five or ſix leagues, an infinite number of iſlands, which deſcribed a circumference to a great extent, the centre of which we occupied. In croſſing one of the ſtraits formed by theſe iſlands, we ſaw the bottom; by the lead we had five fathoms, but for an inſtant only; the moment afterwards the depth increaſed.

Seeing myſelf ſurrounded by ſo many low iſlands, or little iſlets, which left numerous channels between them, I attempted to get out by ſome one of theſe openings; but on approaching them we found them obſtructed by furious breakers, which did not allow me to get out to the ſouthward. I reſolved to ſtand to the weſtward towards that very lofty iſland we had ſeen the day before at a great diſtance. I did not doubt but I ſhould be able in its vicinity to explore a way out of this archipelago.

As ſoon as the ſun roſe, various canoes arrived ſucceſſively after each other, loaded with the ſame fruits and proviſion as thoſe of the iſlands I had juſt quitted. The marketing began; ſhreds of cloth were the price of their commodities.

The tubou of theſe iſlands ſent me two hogs, and ſome cocoas: he invited me to go to the iſland where he reſided. He came afterwards himſelf

himſelf aboard; he aſſured me, that he would give me the pleaſure of a game at wreſtling, and that he would direct a pile of potatoes to be made for me as high as my maſt. He appeared to be jealous of the favourable reception we had met with from the tubou of Mayorga.

I gave him reaſon to hope, that I would ſatisfy him as ſoon as I ſhould get to the iſlands a head of us: but they all agreed in telling us, that the paſſage was ſhut up by ſand banks, and reefs, and that on the contrary, I might find a good bottom in ſteering my courſe by the tubou's iſland and the high one towards which my ſhip's head lay.

Although every one teſtified, that this great equi was the ſovereign of forty-eight iſlands, which they named even very diſtinctively, yet I could not perceive, that they manifeſted the ſame reverence, the ſame reſpect for him, as were ſhewn to the tubou of Refugio Iſland. No ſooner was he on board, than he put his mother-of-pearl ſhell about my neck, in token of ſtrict friendſhip; and after having paſſed five or ſix hours on board, he retired within one of the iſlands, hoping I ſhould give him the meeting the next day.

I coaſted many of theſe ſhoals, and at ſunſet I was ſix leagues to the eaſtward of Saint Chriſ-

topher*, clear of all the little low iſlands: but as the wind freſhened from the eaſt, I kept all night under very little ſail, that I might not expoſe myſelf to run unawares upon one of the iſlets.

I gave to all this group of iſlands the name of *Don Joſeph De Galvez*. The ſouthern cape of the iſland of the tubou, lies in 19° 39′ of latitude, and 179° 38′ of longitude eaſt of Paris.

The 22d, at day break, I crowded ſail, running cloſe upon a wind to the ſouth, or as near as I could lie; and in following this courſe we ſaw before us two iſlands, which I named *Las Culebras*, The Snakes; within them was diſcovered a great ſunken rock, the breakers on which we obſerved at a great diſtance; it was five leagues from us.

The winds were moſtly from the eaſt, inclining to the north-eaſt. Driven forward by them we continued our voyage with a more compoſed mind, being delivered from the dangers to which we had been expoſed, ſometimes by iſlands, ſometimes by ſhoals. We ſaw nothing till the 24th, but this day we diſcovered (to the ſouthward and weſtward,) at the diſtance of ſeven leagues, a

* What iſland of Saint Chriſtopher is this? Is it the lofty iſland of which he has ſpoken, and to which he gave this name? He ſhould have informed us.

ſmall

ſmall iſland by itſelf, which I named *La Solta*. The 27th, we perceived another to the weſt-ſouth-weſt, three degrees weſt, at the diſtance of ten leagues. I gave it the name of *Vaſquez*.

The night between the 27th and 28th, the wind became violent, and the ſea very high. At midnight I was obliged to bring to till day break: the weather then grew ſerene, and I ſtood to the weſtward, with a light breeze from the north-eaſt.

The 29th, finding myſelf in 25° 52′ ſouth latitude, and as I ſuppoſed in 179° 17′ to the eaſt of Paris, the wind veered to the weſtward: I availed myſelf of it by ſteering ſouth-eaſt-by-eaſt, deſirous to get more to the ſouthward, at the ſame time to make eaſting in my longitude. I followed this courſe till the 3d of April, when, in 30° 0′ of latitude, and 174° 22′ longitude weſt of Paris, the wind became almoſt entirely calm.

Thus circumſtanced, and upon continual complaints being made that the ſhip's bread was not eatable, I reſolved to look at it myſelf. When I ſaw the ſtate it was in, I could not but conſider myſelf as placed in the moſt dreadful ſituation, to which any human being could be reduced, who ſails in unknown ſeas, without hope of any ſuccour. I never can look back to that ſad moment, but the recollection of the afflicting pic-

ture

ture, which then ſtruck my ſight, again rends my heart in pieces. I can declare with confidence, that if God had not ſupported me in that ſorrowful and trying ſituation, I ſhould have ſunk into the deepeſt deſpair, ſeeing no proſpect whatever of continuing our voyage.

I called Don Joſeph Vaſquez, the firſt pilot, to me, Don Juan D'Echeverria, the ſecond; as alſo all the warrant officers; and I appointed Don Pedro Carvajal, the ſurgeon, to make the written report of the council we were going to hold, and of the deliberations which might be taken thereon.

I led them one by one into the bread room. We there found millions of cockroaches: it is neceſſary a man ſhould have ſeen them with his own eyes, to have an idea of the number of theſe inſects. Theſe peſts had ſo much infeſted the ſhip, that the holy father, who officiated as chaplain, was obliged to have recourſe to exorciſms more than once. For my own part, I had the precaution to diſtribute in the cabins, bread rooms, and in every part of the ſhip, pots* ſmeared on the inſide with honey mixed with ſugar: every day brought me a bucketful of theſe inſects. I conſumed in this manner almoſt

* In the text, *ſpitting pots* are made uſe of.

all

all my honey, and their number did not appear diminiſhed.

The bread, at firſt opening the room, ſeemed untouched; but near the partitions, all the biſcuit had diſappeared, and the floor preſented nothing but a maſs of bran and duſt. In regard to the diminution of the allowance which I had ordered on the 16th of February, and to the retrenchment of an ounce in every pound, which had been made even from our firſt departure from Siſiran, there ought ſtill to have remained three hundred and twenty-nine arrobes* of bread, without counting the other proviſion, which were in plenty enough: but on that unhappy day I ſaw myſelf reduced to two large binns of duſt rather than bread†. I ordered the three caſks of reſerve to be opened, which had been well hooped and pitched in the ſeams: they ſhewed no appearance of having ever held any bread; they were filled with cockroaches only.

I immediately took the precaution to pick out all the bread poſſible, and to lock it up in the arm cheſts, and in that which contained the ſhip's colours. It was weighed, and was found to be

* The arrobe weighs twenty-five pounds; the pound is 16 ounces.

† Much is abridged here from the original.

forty

forty arrobes. In the next place, I ordered the potatoes which the ſhip's crew might have, to be collected together: but as it was fifteen days ſince the proviſion had been given out, there could ſcarcely be two baſkets full collected. Thirdly, I ordered all the hogs to be killed, as alſo all the other animals, except ſome few fowls deſigned for the uſe of the ſick. I kept for the ſame ſervice, too, what little honey remained out of the ſtock I laid in at Siſiran. The fourth precaution I thought it neceſſary to take, was inſtantly to ſuſpend even the allowance of bread, and to diſtribute to every one of the crew, a ſmall ration of the potatoes, with which I had ſupplied myſelf from the Indians, three ounces of pork, and one of rice. I had no other object in all this but to preſerve their lives, till I ſhould be in a condition to afford them greater ſuccour. Laſtly, I reſolved to ſhare with them my own proviſion, reſerving for the laſt reſource the two cheſts, which I conſidered as ſacred.

After having taken all theſe reſolutions, I held a council with the officers I have before mentioned. I repreſented to them what I had done ſince the 20th of January, what bread there ought to have remained in ſtore, and what actually did remain. I told them, that I ſhould the more readily communicate to them the precautions I intended to take, as they had themſelves been ſubjected

to the retrenchments which I had believed it neceſſary to make, retrenchments which had occaſioned my being conſidered as a tyrant, as having an unfeeling heart, as a man who had thrown off every ſentiment of humanity; that we were then ſeventeen hundred and ſixty leagues from Peru, twelve hundred and forty from Guam, in the Marians; that the winds would be favourable for following either of theſe routes, except ſome calms or contrarieties, which always might be expected in ſuch voyages; that they had the ſtate of the proviſion under their own eyes; in ſhort, I begged of them to declare what they would do, if they had the command of a ſhip under ſimilar circumſtances. They all unanimouſly anſwered, that death only could be worſe than the condition we were then in; that of the two routes propoſed, although neither the one nor the other held out much hope of ſafety, yet, that it was not poſſible to diſpenſe with the preference for the Marians, trying at the ſame time if ſome relief might not be had at the iſlands of Martin De Mayorga, concluding that we had not proviſion for a month. The firſt and ſecond pilot ſupported all that had been repreſented to me; I myſelf being perſuaded that their advice was the beſt, but above all, being unwilling to contribute to the loſs of ſo many unfortunate perſons, or obſtinately to oppoſe what

appeared

appeared to me to be moſt for the intereſt of the king, gave orders for ſteering to the northward, with a view of getting forty leagues to the eaſtward of the iſlands at which I had already touched, and where I hoped ſtill to find ſome refreſhments. This reſolution I did not take, however, without a ſenſation more painful than that which accompanied the inſpection of the bread and other proviſion: I would have preferred death to ſtanding again to the northward; and if I had not allowed myſelf to be dictated to by calm reaſon, I had taken the mad reſolution to have purſued our voyage to the eaſtward. The calmneſs of my mind now forſook me; I was far from experiencing that tranquillity of ſoul, with which I have often endured an infinity of vexations and croſſes in the very dangerous voyages I have undertaken for making new diſcoveries*. The reflection, that we could not take any other ſtep, was not ſufficient to pacify me, eſpecially when I recollected, that this diſcovery of our wretched condition took place juſt as we had overcome the difficulties of our navigation, when in ſhort we had reached a latitude in which we could rely on favoura-

* What ſervices would not this navigator render to geography, if he thought proper to communicate his diſcoveries to the public!

ble winds, such as I counted on for speedily and successfully completing our voyage. It is certain, however, that if the idea had occurred to me a fortnight later, of looking myself into the state of our provision, our greatest hope remaining would have been only to breathe on some desert island, had we met with such a one. And in our actual situation, if the refreshments the Indians furnished us with had been less abundant, there would have been no other course left me, but to have sought the first land whither we might betake ourselves as to a refuge. It was then, in truth, an interference of providence, by which we found the islands of Mayorga, whence we had drawn such powerful and timely relief.

With variable winds, which blew from every point in the horizon from the 4th of April, I continued my course to the north, or as nearly so as I could between that point and the east. The 9th a breeze from the south-east to the north-east began to prevail: I took advantage of it to get forty leagues to the eastward of the islands, in order to find them the more easily, in following their parallel.

On the 16th the wind moderated, the 18th it freshened, accompanied with dark clouds and heavy rains; we were obliged to lie to all the night. At day-break we ran down towards the islands, but the current had carried us some minutes

to

to the northward; the bad weather prevented us from taking any obſervation; theſe iſlands beſides being very low, we did not perceive them. We ſaw to the north-weſt the iſland which is to the ſouth-weſt ſeven degrees ſouth of the iſland of Latte, and being nearer it, we made Latte at the diſtance of ſix leagues. It thence reſulted, that my reckoning was thirty miles aſtern of the ſhip, and conſequently that we had paſſed between the two groups of iſlands, De Galvez and De Mayorga, at a little diſtance from both, but which the continued fogs, and a cloudy ſky, had prevented us from ſeeing.

As the only hope which ſupported my ſailors was to be able to gain the iſlands of Mayorga, I hauled my wind as cloſe as poſſible, and reefed my top-ſails, but the ſea was high, the wind violent, and the night dark; I was therefore obliged to give up the idea of making theſe iſlands, perſuaded, that I could not approach them (which beſides was very doubtful) without loſing many days. My crew, however, grew diſheartened at the unhappy ſtate they ſaw themſelves in; their weakneſs was ſo great that, in order to hoiſt a top-ſail, it was often neceſſary the men from the forecaſtle and the quarter deck ſhould mutually aſſiſt each other. The moſt rigorous diet of an hoſpital could not have enfeebled them more. To raiſe their ſpirits, I deſired them to conſider, that by the

courſe we held, we ſhould infallibly fall in with other iſlands, where they might recruit their ſtrength; that the winds were favourable, and that we advanced with flowing ſheets every day towards the termination of our ſufferings. Theſe reaſons compoſed them, they took patience.

On the 21ſt, we diſcovered to the north-north-eaſt, and to the eaſt-north-eaſt, two iſlands, which I named *Conſolacion*, becauſe my crew derived comfort from them, being thence provided with ſweet potatoes, pigs, cocoa-nuts, bananas and fowls, which the natives brought us, during the thirty hours I remained on their ſhore. If the weather had been a little leſs unfavourable, our ſupplies had been more abundant; the crew, however, by barter and exchange, in which their clothes were ſo little ſpared as to endanger their ſtripping themſelves naked, made proviſion for more than eight days; our ſailors again recovered their ſtrength, and were in a better condition to ſupport the greateſt misfortune that yet awaited them.

As on our approach to the iſland we ſaw coming towards us a great number of canoes laden with proviſion, I ſuſpended the ſcanty allowance which I furniſhed from my own ſtore: it is eaſy to conceive the object of this parſimony.

The

The Indians of these islands speak the same language as those of Refugio, their character of mind is the same. Their confidence in us was such, that nineteen among them slept on board without our being able to prevent them; and the following day we were obliged to have recourse to force to rid ourselves of their company.

They were desirous of engaging me to land in their island, where they said they would exchange with us a great many large hogs, the smallness of their canoes permitting them only to ship the least; but as my time was precious, I satisfied myself in seeing that no one neglected himself, and that all provision was made of which the circumstances allowed.

The 22d, at night, I steered to the north north-west, with a light wind from the north*, and in this course I discovered, on the 24th, another island, which I named *Maurelle*. The wind became calm, except a few squalls, and some transient puffs from the north, which prevented my making the island before sun set: a south-east wind then springing up, I got within three leagues distance; but the night, and this distance, too great for the little canoes of these Indians, made

* There is some error here; I cannot believe that with a wind from the north the Spaniards could have sailed to the north-north-west: it ought to be read, without doubt, *a wind from the north-east*, or *a course to the west-north-west*.

two of them that were ſailing toward us go back, laden no doubt with refreſhments.

The winds continued to blow from the firſt and ſecond quarter, (from the north to eaſt, and from the eaſt to ſouth) ſometimes freſh, ſometimes ſo faint that they lulled at laſt into a calm. I availed myſelf of every favourable moment, and on the 5th of May I was in latitude ſix degrees.—In this poſition we found a very low iſland ſurrounded by a ſandy ſhore, which terminated in an impenetrable reef, near to which I could find no ground with a line of more than fifty fathoms. The iſland was covered with a thick plantation of * cocoa-nut trees. This ſight gave the more pleaſure to the ſhip's company, as the proviſion obtained at Conſolacion Iſland were exhauſted that very day. I ſent the long boat armed, to bring us, if poſſible, a good ſupply of cocoa-nuts; the breakers of the reef prevented her landing; the frigate, nevertheleſs, got ſo near the ſhore, that the natives ſpoke to us from the heights; but we ſaw no means of getting cloſer. However the Indians launched their canoes not without extreme difficulty in conſequence of the obſtacle of the reef. They reached the ſhip in great numbers, but the difficulty of the navigation had not allowed them to load their canoes

* It will be ſeen preſently that this iſland was called *Iſla del Cocal*. Cocal ſignifies a plantation of cocoa palms.

with

with any conſiderable quantity of cocoa-nuts. They tried to tow the frigate, by making a number of lines faſt to her head, and rowing altogether towards the iſland, whence they threw ropes alſo to haul us in towards the ſhore. Finding after a trial of ſix hours that they had not made any progreſs, and expecting no ſucceſs at laſt, I ſet ſail to the north-weſt.

The inhabitants of this iſlet already began to vary the pronunciation of ſeveral common words from the other iſlands. They came on board ſo beſmeared with paint, that a man might have been tempted to take them for the images of demons.

The greater part of them had beards ſo long as to hang down upon their breaſts. Near the cocoa-nut plantation was ſo great a number of huts, diſpoſed in ſuch excellent order, that the population might reaſonably be thought conſiderable.

On the 6th I felt obliged to reduce the allowance of bread to five ounces, the pork to three, and the beans to two, all which I took out of my own proviſion, there being none in the King's ſtores; and although I thought it impoſſible that my crew could be ſupported upon ten ounces of bad victuals, yet the ſad manner in which the ſhip was provided did not allow me to afford them more.

The

The ſame day, at night, we ſaw another iſland, flatter, but larger than the preceding; I called it *San-Auguſtin:* I left it to the ſouth-weſt at the diſtance of ſix leagues.

On the 13th, in re-croſſing the line, we had ſqualls from every point of the compaſs. All the remarks I had made on the ſtate of the horizon, after leaving Cocal Iſland, ſerved to perſuade me, that we had left to the eaſt a great deal of land, which, without doubt, along with Solomon's Iſlands, forms a ſtring of iſlands more or leſs open to the ſouth of the equinoctial line.

During the ſhort time that the allowance of bread was limited to five ounces, there was not one of all the crew but complained of a weakneſs in the ſtomach. All were ſo feeble, that the hands of the forecaſtle and quarter-deck together could with difficulty hoiſt the ſails; this often obliged us to work the ſhip in a more diſadvantageous manner, than we ſhould otherwiſe have done.

On the 22d I reckoned I was upon the flats of St. Barthelemy. Prudence would have required, without doubt, that I ſhould ſometimes lay to during the night, the more ſo, as the wind was not only briſk, but ſometimes very ſtrong: yet I was too much affected by the melancholy condition of my people, the greater part of whom were attacked with the ſcurvy, occaſioned by the bad quality of

the bread. I was therefore not willing to loſe a moment; I crowded ſail, and the extreme vigilance I recommended to the whole crew ſupplied thoſe precautions, which I ſhould have taken under other circumſtances.

On the 24th our latitude was 13° 16′ north, and all the dangers were over. I then ſteered weſt-by-north for Guam, the capital of the Marians, where on the 31ſt I anchored in the road of Umata; and I received there, without delay, the relief neceſſary for re-eſtabliſhing the health of my crew.

As I had only one anchor, which was too little to truſt to in the road, I ſent an expreſs immediately to Don Philippe Zerain, governor of the iſland. I communicated to him the then ſtate of my ſhip, and the object of my commiſſion; I entreated him to put me as ſpeedily as poſſible into a condition to ſet ſail again; I declared to him, that however worn my ſails and rigging might be, I was nevertheleſs reſolved to make for New Spain, in order to deliver into the hands of the viceroy of Mexico the important diſpatches, with which I was entruſted. I added, that I hoped he would facilitate my obtaining the indiſpenſable ſupplies neceſſary for ſo long a voyage: that I did not aſk for thoſe articles of food which were cuſtomarily furniſhed to the King's ſhips (they could not have been obtained in the preſidency) but thoſe only which

which could be collected in the iſland, requiring only that their quantity on the whole might be equivalent to the ordinary victualling.

The governor would himſelf be the judge of all that was neceſſary to the ſucceſs of my commiſſion. Conceiving of how much conſequence it would be, ſhould the violence of the wind blow us out of the road, and ſeeing my crew totally bereft of proviſion, he ſent a temporary ſupply on board for fifteen days in rice, maize, and hogs, without diſcontinuing the daily refreſhments furniſhed us for the recovering the health of the ſcorbutic, and enabling the crew to undertake a new voyage. He ſent alſo to another preſidency, at ten leagues diſtance from Umata, for a very old anchor: it actually wanted a fourth part of the ſtock, but I repaired it in a manner ſo as to render it fit for ſervice, and by the help of a wooden anchor, which I conſtructed with the carpenter's aſſiſtance, we were at the end of eight days riding by three anchors, not however entirely to the ſatisfaction of the crew.

Nothing now remained to be done but taking in water, for aſſuring our ſubſiſtence, whether at anchor or under ſail. Upon my firſt arrival I had taken care to ſee my caſks put aſhore one after the other: it was not long ſince they had been filled at the Mayorga Iſlands.

What was then our aſtoniſhment when we

found we had no more than two butts of water, and even one of these wanted full a barrel of being complete! I requested the governor, the major of the fort, and my whole crew, to be witnesses, with their own eyes, of the enormous waste. Every one rendered thanks to God for having saved us from the imminent danger with which we had been threatened.

As most of the staves, and all the heads were eaten into throughout, we were obliged to repair them anew: but after this work, the butts, which before held six barrels, now held only four. We could therefore make up of these wrecks only forty-eight butts. The governor, comprehending the insufficiency of this supply, sent on board thirty *cannes*, each containing eight quartilloes*. This supply appeared to be incompetent to make up for the ravages we had reason to expect from the destructive insects. I assumed courage, however, hoping that in the abundance of our provision they would find wherewith to satiate themselves.

* Here is probably some mistake. According to Paucton (*Traité des Mesures, Poids, &c.*) the thirty cannes, of eight quartilloes each, would have contained but a hundred and twenty-five Paris pints; and more than the half less, according to Sejournart's Dictionary. This would have been a very weak supply indeed! it is necessary apparently, to read *eight hundred* or *eight thousand* quartilloes.

The

The eatables which I obtained, without any coſt to the royal treaſury, were a hundred and forty anegues* of maize, ſixty of rice, thirty hogs, twenty young bulls (or oxen perhaps) forty-five a———† of dry meat, of butter, of ſalt, of oil of the country for the lamps, of brandy made of cocoa nuts for the crew, ſixty cocoa nuts for the hogs, and all the other articles of inferior conſideration aboard a ſhip. Under more favourable circumſtances, we ſhould not have been ſatisfied with ſuch ſtores. I made ready then, the 20th of June, 1781, for ſailing to New Spain, in order to the final accompliſhment of a commiſſion, underſtood to be highly uſeful to the State.

*Departure from Umata Road, in the Iſland of Guam, the capital of the Marian Iſlands, ſituate in 13° 10′ north latitude, 21° 28′ eaſt of Manilla.*

I weighed therefore on the 20th of June, and again experienced the uncommon weakneſs of my cables, eſpecially of that which held the anchor

* The anegue, or rather the fanegue, contains very near four buſhels and a half of Paris meaſure.

† This abridgement a——— ſignifies probably anegues. Yet the author employs it elſewhere for arrobes. The arrobe, for matters not liquid, is a weight of twenty-five pounds: thus forty-five arrobes would make only eleven hundred twenty five pounds; a very ſmall proviſion indeed.

the

the governor had procured for me. The anchor itſelf was ſcarcely in ſight, when the cable broke; and as the ſhip in caſting had increaſed her diſtance from the ſhoal water, it fell into a depth where the cable could not reach.

The ſeaſon allowed us to ſteer a northerly courſe; the winds from the eaſt and north-eaſt carried me as far as the latitude 20° 10′. We had afterwards, for eight days, a dead calm, during that time we were entirely at the mercy of the currents which drifted us to the north-weſt.

On the 3d of July, in latitude 24° 26′, the winds between the weſt and the north began to blow ſometimes with conſiderable force, ſometimes more faintly; they carried me on the 7th to the latitude of 25° 9′, and I ſuppoſed myſelf to be then off the great Volcano Iſland. We continued our courſe till the 11th, when being in latitude 27° 52′, I reckoned I might be twenty-five leagues to the eaſt of Mal-Abrigo Iſland, and that I had gotten clear of all the ſtring of Mariannes. The wind then veered to the third quarter (between the ſouth and the weſt) and I ſtood to the north-eaſt, trying always to get into a higher latitude, in order, at laſt, to have a fair and briſk wind from the weſt: having reached the latitude of forty degrees, I ſteered to the eaſt-by-north, as much as the winds would allow: but being in latitude 43, and longitude 179° 28′ eaſt of Paris, the

the wind ſhifted to the 2d quarter (between the eaſt and the ſouth) and became ſo violent, that I was obliged for two days to lie to.

The 5th of Auguſt the wind came to the north-weſt; I ſteered to the eaſt-by-ſouth until the 13th. In this interval the winds blew from all points of the compaſs, and fixed at laſt in the ſecond and firſt quarter. I availed myſelf as much as poſſible of its variations to get forward to the eaſtward.

The 30th I was in latitude 37° 5′ north, and I reckoned myſelf in 144° 17′ longitude weſt from Paris, and at 260 leagues diſtance from Cape Mendocino. The winds fixed then in the fourth quarter; I ſtood to the eaſtward until the 3d of September, when we ſaw ſea-weed, and trunks of fir trees floating upon the water, the firſt ſign of the proximity of the northern coaſts of California. To approach them I ſteered to the eaſt-ſouth-eaſt.

On the 4th the ſea changed colour: and the ſight of ſome ſmall birds confirmed to us, that we were not far from land, and that in a ſhort time we ſhould get ſight of it.

On the 8th, I was off Point Pedernal (or Gun Flints), at the diſtance of five leagues. Theſe bearings placed me in longitude 123° 3′ weſt of Paris, I reckoned myſelf in 130° 34′,

my

my reckoning was therefore wrong by 122 leagues, which I made myſelf too much to the weſt.

After getting ſight of this point, I made for Cape San-Lucar. In my courſe to the eaſt of the Iſland of Guadelupa, at the diſtance of eight leagues, I had ſome days of calm weather, after which I got ſight of Morne Saint Lazare, and the 22d I was near Cape San-Lucar.

On the 25th, after ſome calms, during which I had a ſight of the land of this cape, there came on a terrible hurricane, which in the ſpace of ſix hours flew round from the north and eaſt, to the ſouth, with ſuch fury that, notwithſtanding the heavy ſea that headed us, we ran ſeven miles and a half an hour under the fore ſail. There is no doubt but we ſhould have been diſmaſted, if the tempeſt had laſted a little while longer.

The ſame day, when the hurricane had ſubſided, I ſet every ſail and ſtood for the Maria Iſlands. I doubled them on the 26th and 27th, at night, and anchored in the road of San-Blas, in latitude 21° 30′, longitude 134° 54′ eaſt of Manilla, and 107° 6′ weſt of Paris. I have had the happineſs to bring my crew home ſafe and ſound, in ſpite of the horrible havock the cockroaches had made in our proviſion, and he wretchedneſs which was the conſequence of it; having loſt but two men, one of whom died in the harbour of Siſiran before our

departure, and the other was attacked with a phthiſis when he embarked *.

San-Blas, the 27th of September, 1781,

On board the frigate the Princeſſa.

F. A. MAURELLE.

## EXTRACT

*From the narrative of a voyage made in 1779, by Don Francisco-Antonio Maurelle, enſign of a frigate, in the ſervice of the King of Spain, for diſcovering the weſt coaſt of North America.*

Within a few years the Spaniards have undertaken three voyages for examining the weſt coaſts of North America. In the firſt, Don Juan Perez, chief pilot, aſcended as high as 55 deg. of latitude; and, upon his return, he twice reconnoitred the coaſt between this point and the port of Monterey.

* I have not been diſpoſed to add any remark to the narrative of this voyage, which is intitled *intereſting* by Maurelle: but as in hydrography ſome ſervice is derived from the moſt inexact journals, notwithſtanding the too ſevere judgment againſt this by La Pérouſe in the extract of his correſpondence, in the laſt volume, I have thought it might become uſeful to ſome navigators, or throw light upon ſome geographical diſcuſſions. *(Fr. Ed.)*

The

The ſecond voyage is of the date of 1775, and for this purpoſe a frigate and a ſchooner were fitted out. The ſchooner was commanded by Don Juan Francisco de la Bodega y Quadra, a lieutenant in the navy. Don Maurelle, who accompanied Don de la Bodega, and who was then but ſecond pilot, ſketched a relation of this expedition. A copy of it fell into the hands of the Engliſh, and the Hon. Daines Barrington has publiſhed it, tranſlated into Engliſh; captain Cook mentions it in the account of his third voyage; but captain Dixon, in the introduction to the narrative of the voyage he made in theſe ſeas, accuſes Don Maurelle of manifeſt falſehood; it is inconteſtible, according to him, that this officer has never been in thoſe tracks where he is ſaid to boaſt of having made what captain Dixon calls *fruitleſs reſearches*. The accuſation is ſtrong; if it be well founded, Don Maurelle certainly merits no confidence. He ſays, "We now attempted to find out the ſtrait "of Admiral Fuentes, though as yet we had not "diſcovered the archipelago of St. Lazarus, "through which he is ſaid to have ſailed. With "this intent, we ſearched *every bay and receſs* "on the coaſt, and ſailed round every *headland*, "*lying to in the night*, that we might not loſe "ſight of this entrance. After theſe pains taken, "and being favoured by a *north-weſt* wind, it "may be pronounced that no ſuch ſtraits are to

" be found *." Captain Dixon next proceeds to ſay, ſpeaking of Queen Charlotte's Iſlands, " The " ſituation of theſe iſlands, viz. from 54 degrees " 20 min. to 51 deg. 56 min. north latitude, and " from 130 to 133 deg. 30 min. weſt longitude, " evidently ſhews that they are the archipelago " of St. Lazarus." But is it fully proved, that what captain Dixon calls *Queen Charlotte's Iſlands*, is really a group of many iſlands? We are told, that " there is every reaſon to believe it, by " conſidering the great number of ſmall ſtraits " which have been ſeen in ranging along the " coaſt." But theſe ſmall ſtraits may be nothing elſe than creeks; no one of them has been penetrated into. Captain Dixon had other affairs to attend to; his object was not to make diſcoveries, but to purchaſe fine furs cheap, and to ſell them dear at China. Beſides, he is not the author of the narrative; it is, ſays the introduction, by a perſon as little practiſed in the literary career, as accuſtomed to a maritime life. But captain Dixon tells us, in the ſame introduction, that he has carefully corrected whatever relates to navigation. All, without doubt, is very well corrected; but to ſupport the erroneous opinion, which people appear to be in, of the reality of the diſcoveries of Admiral Fuentes, it is not neceſſary

* " See Barrington's Miſcellanies, page 508."

to

to tax with impoſture a navigator, who had no other view than to make new diſcoveries.

The diſcoveries made by Maurelle in the ſecond expedition extended to the 58th degree of latitude. Don Maurelle particulariſed them upon a chart, which probably has not fallen into the hands of the Engliſh: the Spaniards will publiſh it perhaps, and then the diſcoveries of Maurelle may be combined with thoſe of Cook and Dixon. Don de la Bodega and Maurelle diſcovered, among the reſt, in lat. 55° 18′, the entrance into a harbour which they ſuppoſed to be a very good one: they gave to this entrance or opening the name of *Paſſagio de Bucarelli*, in honour of friar Don Antonio-Maria Bucarelli y Urſua, viceroy of Mexico, who ſpared nothing which depended on him to facilitate the ſucceſs of theſe expeditions. They diſcovered two very good harbours alſo, that of Guadelupa, in 57° 11′, and that of Los Remedios, in 57° 18′. Cook, in his third voyage, in 1778, had a view of theſe harbours, but he did not put into them.

The King of Spain gave orders for a third expedition, in 1777; it was intended to complete the examination of the north-weſt coaſt of America, from the 58th degree to the 70th. Don Bucarelli fitted out two frigates. Don Ignacio Arteaga, a lieutenant in the navy, commanded the *Princeſſa*; *La Favorita* was under the orders of

Don de la Bodega, who took Don Maurelle for ſecond captain, then *enſeigne de frégate.* They agreed to rendezvous firſt at the entrance of Bucarelli, where they were to take in wood and water, &c.

On the 11th of February, 1779, they left the harbour of San Blas, which they place in lat. 21° 30′ north, and long. 107° 6′ weſt of Paris. They arrived, the 3d of May, at the entrance of Bucarelli, the geographic ſituation of which, according to them, is in 55° 18′ north, and 139° 15′ weſt of Paris. There does not appear to be a ground for queſtioning the exactneſs of the latitude of Don Maurelle; ſo much cannot be ſaid of his longitudes, which probably were not determined by obſervation, but by account. According to a ſurvey made by captain Cook the preceding year, on the coaſts adjacent to the entrance of Bucarelli, this entrance ought to be very nearly 227° to the eaſt of Greenwich, or 135° one-third to the weſt of Paris.

Bucarelli's entrance introduced the Spaniards into a vaſt gulf; they anchored there the third of May, in a harbour, than which, they ſay, there is not a finer in Europe; they gave it the name of *Puerta de la Cruz.*

On the 18th of May Don Maurelle was diſpatched with two long boats to make the tour of the gulf.

In

In this expedition, which he did not finiſh till the 12th of June, he ſurveyed all the capes, all the iſlands, all the principal parts of the great gulf; he delineated all the creeks, all the bays, and all the particular harbours.

Every one of theſe bays, every one of theſe harbours, ſays he, are good and ſafe. He gave names to all theſe places; and afterwards laid down an extenſive and very exact plan of the whole of the great gulf: it is much to be wiſhed this plan was publiſhed, as well as the chart Don Maurelle conſtructed of the coaſts and the iſlands that the Spaniards diſcovered in the courſe of their expedition. The chart, however, would be leſs eſſential than the plan, the ſame coaſts having been viſited by Cook the preceding year; but ſome particulars might be found in it which may have eſcaped the Engliſh argonaut.

Don Maurelle met with very few habitations in his expedition; he ſaw but one village, ſituate at the top of a high hill; it was not to be aſcended but by a flight of ſteps, or rather by a wooden ladder; if the foot ſlipped you fell down the precipice.

The Spaniards were not a long time in the harbour of La Cruz without receiving a viſit from the Indians in its neighbourhood. Bartering took place; the Indians gave their peltry, and

various trifles, for glaſs beads, bits of old iron, &c. By this traffic the Spaniards were enabled to gain a ſufficiently exact knowledge of their genius, of their offenſive and defenſive arms, of their manufactures, &c.

Their colour is a clear olive; many among them have, however, a perfectly white ſkin: their countenance is well proportioned in all its parts. They are robuſt, courageous, arrogant, and warlike.

They clothe themſelves in one or two undreſſed ſkins (with the fur apparently); theſe are the ſkins of otters, of ſea wolves, of benades (a ſpecies of deer), of bears, or other animals, which they take in hunting. Theſe dreſſes cover them from the neck to the middle of the leg; there are, however, many among them who wear boots of ſmooth ſkin, reſembling Engliſh boots, only that thoſe of the Indians open before, and are laced tight with a ſtring. They wear hats woven from the fine bark of trees, the form of which reſembles that of a funnel, or a cone. At the wriſts they have bracelets of copper or iron, or for want of theſe metals, the fins of whales; and round the neck, necklaces of ſmall fragments of bones of fiſhes, and other animals, and even copper collars of the bigneſs of two fingers. They wear in their ears pendants of mother of pearl, or flat pieces of copper, on which is emboſſed a reſin of a topaz colour,

colour, and which are accompanied with jet beads. Their head of hair is long and thick, and they make uſe of a comb, very like ours, to hold it together in a ſmall queue from the middle to the extremity; a narrow ribbon of coarſe linen, woven for this purpoſe, ſerves as a ligament.

They wear alſo, as a covering, a ſpecies of ſcarfs * a vare and half long † and one vare broad, woven as the peillons ‡ of Peru; all around it hangs a fringe half a quarter of a vare broad, the thread of which is regularly twiſted.

The women give proofs of their modeſty and decency by their dreſs. Their phyſiognomy is agreeable, their colour freſh, their cheeks vermillioned, and their hair long; they plait it together in one long treſs. They wear a long robe of a ſmooth ſkin tied round the loins, like that of a nun; it covers them from the neck as low as the feet; the ſleeves reach down to the wriſts. Upon

* It is in the Spaniſh, *algunas preſadas*. I know not whether *preſadas* ſignify any other thing than green colour, perhaps *preſadas* has been written for *frazadas*, a covering; the *p* for the *f*, and the *s* for the ꝛ are often met with in the manuſcript.

† The Spaniſh vare is about three French feet long.

‡ The Spaniſh peillon is a ſpecies of ancient robe, which is ſtill in uſe at Peru; the editor has not been able to diſcover how it is woven.

this

this robe they put divers ſkins of otters or other animals to defend themſelves from the inclemency of the weather. Better dreſſed, many of them might diſpute charms with the moſt handſome Spaniſh women; but diſſatisfied with their natural charms, they have recourſe to art, not to embelliſh, but to disfigure themſelves. All the married women have a large opening in the under lip, and this opening or orifice is filled up by a piece of wood cut in an oval ſhape, of which the ſmalleſt diameter is almoſt an inch; the more a woman is advanced in years the more this curious ornament is extended: it renders them frightful, the old women eſpecially, whoſe lip, deprived of its wonted ſpring, and dragged by the weight of this extraordinary jewel, neceſſarily hangs in a very diſagreeable manner. The girls wear only a copper needle, which croſſes the lip in the place where the ornament is intended hereafter to be placed.

Theſe Indians in war make uſe of cuiraſſes and ſhoulder pieces of a manufacture like that of the whalebone ſtays among the Europeans. Narrow boards or ſcantlings form, in ſome ſort, the woof of the texture, and threads are the warp: in this manner the whole is very flexible, and leaves a free uſe to the arms for the handling of weapons. They wear round the neck a coarſe and large gorget which covers them as high as below the eyes,

eyes, and their head is defended by a morion, or ſkull-piece, uſually made of the head of ſome ferocious animal. From the waiſt downwards, they wear a kind of apron, of the ſame contexture as their cuiraſs. Laſtly, a fine ſkin* hangs from their ſhoulders down to the knee. With this armour, they are invulnerable to the arrows of their enemies; but thus armed, they cannot change poſition with ſo much agility as if they were leſs burdened.

Their offenſive arms are arrows; bows of which the ſtrings are woven like the large cords of our beſt muſical inſtruments; lances four vares in length, tongued with iron; knives of the ſame metal, longer than European bayonets, a weapon however not very common among them; little axes of flint, or of a green ſtone, ſo hard that they cleave the moſt compact wood without injury to their edge.

The pronunciation of their language is extremely difficult; they ſpeak from the throat, with a movement of the tongue againſt the palate. The little uſe the women make of the inferior lip greatly injures the diſtinctiveneſs of their language. The Spaniards could neither pronounce nor write the words which they heard.

From the vivacity of ſpirit in theſe Indians,

* It is in the manuſcript *quera:* this word I do not think to be Spaniſh; I have ſuppoſed it ought to be read *cuera*, the name of a ſpecies of clothing made of ſkin.

and

and from their attention amply to furniſh the market eſtabliſhed in the harbour, it may be concluded, that they are pretty laborious. They continually brought ſtuffs well woven and ſhaded by various colours, the ſkins of land and ſea wolves, of otters, bears, and other ſmaller animals; of theſe ſome were raw, and others dreſſed. There were to be found at this market alſo coverlets* of coarſe cloth, ſhaded with white and brown colours, very well woven, but in ſmall quantities; large ribbons of the ſame linen which might match with that of the Spaniſh officers mattraſſes; ſkeins of thread ſuch as this cloth was made of, wooden plates or bowls neatly worked; ſmall boats, or canoes, painted in various colours, the figures of which repreſented heads with all their parts; frogs in wood, nicely imitated, which opened like tobacco boxes, and which they employed to keep their trinkets in: boxes made of ſmall planks, of a cubical form, being three quarters of a vare on each ſide, with figures well drawn, or carved on the outſide, repreſenting various animals; the covers fabricated like Flanders etwees, with rabbeted edges, formed ſo as to ſhut into the body of the box; animals in wood, as well thoſe of the earth as of the air; figures of men of the ſame material, with ſcull-caps repreſenting the heads of

* The word *preſadas* occurs again: I have preſumed, that it muſt be read *frazadas*, bed coverlets.

various

various fierce animals; ſnares and nets for fiſhing; copper collars for the neck, and bracelets of iron for the wriſt, but which they would not part with except at a very high price; beak-like inſtruments from which they drew ſounds as from a German flute. The principal officers took ſuch of theſe merchandizes as were moſt agreeable to them, and left the remainder to the ſhips crews.

As the Indians diſcovered, that the Spaniards were very dainty in their fiſh, they did not let them want for choice: the greateſt abundance was in ſalmon, and a ſpecies of ſole or turbot three vares and a quarter long, broad and thick in proportion; cod and pilchards were alſo brought to market, and fiſhes reſembling trout. From all this it may be inferred, that this gulf is full of fiſh; the banks too are covered with ſhells.

The quantity of mother-of-pearl that theſe Indians cut to pieces for making ear-rings awakened the curioſity of the Spaniards: they tried to diſcover whether theſe people had not in their poſſeſſion, or whether their country did not produce pearls, or ſome precious ſtones: their reſearches were fruitleſs, they only found ſome ſtones which they judged to be metallic, and which they carried on board, not having the neceſſary means for extracting the metal they might contain.

Theſe Indians fed upon fiſh, freſh or dry, boiled or roaſted; herbs and roots which their mountains

tains yielded them, and particularly that which in Spain is called ſea parſley; and laſtly upon the fleſh of animals, which they take in hunting: the productions of the chaſe are undoubtedly abundant, ſeeing the number of dogs they keep for this purpoſe.

The Spaniards did not perceive among them any veſtige of religion, unleſs it be obſerved, that they incline ſometimes towards the ſun; but is this done as an act of devotion? The anſwer is not eaſily made to this queſtion.

Don Maurelle in his expedition round the gulf found in two iſlands three dead bodies laid in boxes of a ſimilar form to thoſe which have been deſcribed above, and decked in their furs. Theſe biers were placed in a little hut upon a platform, or raiſed floor, made of the branches of trees.

The country is very hilly, the mountains are lofty, and their ſlope extends almoſt every where to the ſea. The ſoil, lime-ſtone; it is nevertheleſs covered with an impenetrable foreſt of tall fir trees, very large and very ſtrait. As theſe trees cannot ſtrike very deep into the earth, the violence of the wind often tears them up by the roots: they rot and become a light mould, upon which grows a buſhy thicket, and in this are found nettles, camomile, wild celery, aniſe, a ſpecies of cabbage, celandine, elder, wormwood, ſorrel; and without doubt there are other plants along the rivers.

The

The Spaniards ſaw ducks, gulls, divers, kites, ravens, geeſe, ſtorks, gold-finches, and other little birds unknown to them.

The commerce between the Spaniards and the Indians was quite undiſturbed: the former kept themſelves always on their guard, ready for ſelf-defence if attacked; the latter contented themſelves with ſtealing all they could ſecretly, if not obſerved, but openly, if they believed themſelves the ſtrongeſt. In the deſire to preſerve peace and quietneſs, the Spaniards ſhut their eyes upon petty thefts: but if any were committed on them too prejudicial to be tolerated, they ſeized either ſome canoe, or ſome perſonage of diſtinction, which they did not releaſe till reſtitution was made; but all this was attended with no effuſion of blood.

The deſire to obtain iron, cloth, and other ſtuffs, was ſtronger among the Indians than paternal love; they ſold their children for ſome wares of ſtuff, or for ſome broken pieces of iron hoops. The Spaniards in this manner bought three young lads, one from five to ſix years old, another of four, and the third from nine to ten, not to make ſlaves, but chriſtians of them; they hoped beſides to derive uſeful information from them as to the nature of the country and its inhabitants. Theſe youths were ſo contented in being with the Spaniards, that they hid themſelves, when their parents came

came on board, from the apprehenſion of being again reſtored to them. Two young girls were alſo purchaſed with the ſame view; one very ugly, ſeven years of age; the other younger, better made, but ſickly, and almoſt at the gates of death.

The oldeſt of the boys appeared of a lively diſpoſition, and of a more than ordinary underſtanding; he preſently made himſelf beloved by all the crew. He ſignified through very expreſſive ſigns, what his countrymen meditated, what they were going to do, and what was the end propoſed: he took the ſoldiers by the hand, conducted them to the depoſits of arms, put muſkets into their hands, made ſigns to load them, and to fire upon this or that canoe, but to ſpare ſuch a one as belonged to friends or favorites. The environs therefore of this harbour are inhabited by various tribes, enemies to each other.

At the full and change of the moon, the ſea riſes in the harbour of La Cruz ſeventeen feet three inches Engliſh; it is then high water at a quarter after 12 at noon: the loweſt tides are fourteen feet three inches; the night tides exceed by one foot nine inches thoſe of the day.

The winds from the ſouth, ſouth-eaſt, and ſouth-weſt, being always accompanied by fogs or miſts, and with continual rains, the Spaniards on the 15th of June quitted the harbour of La Cruz,

Cruz, and repaired to that of San-Antonio, with the view of more eaſily getting out of the gulf with the firſt north-weſt wind; this they were not able to do till the firſt of July.

The 16th of July, they diſcovered, half a league to leeward, a ſhoal which they reckoned to be in latitude 59° 2′ and longitude 147° 46′*: they ſaw Mount Saint Elias at a great diſtance, the ſummit of which they ſay may equal that of Oriſaba in height.

The 17th, at noon, Cape Saint Elias bore weſt 40 deg. north, diſtant three leagues: they eſtimated its latitude at 59° 53′, its longitude 149° 20′. The charts repreſent an iſland in the vicinity of this cape: the point of this iſland neareſt to the cape bore north 18 degrees weſt, diſtant five leagues. From this cape the coaſt runs away to the north, inclining a little towards the north-weſt: they diſtinguiſhed in this part ſeveral large bays, where they think there may be well ſheltered harbours.

The iſland, ſays Don Maurelle, is larger than it is repreſented upon the charts: the Spaniards being only half a league from it, diſcovered a ſhoal to the ſouth-weſt.

* All the latitudes are to the north, the longitudes to the weſt of London. It has already been remarked, that theſe longitudes could not be depended upon.

The 18th, they got ſight of a vaſt gulf, to the weſt of Cape Saint Elias; this gulf is ten leagues in depth. The 20th, they were boarded by two canoes of a ſingular conſtruction; very thin boards or planks form the wood work; their planks are attached to each other by moderately ſtrong cords, and yet leave void ſpaces between them; ſo that without the lining, this would form an exact ſkeleton of a canoe. This ſkeleton is ſurrounded every where with the ſkins of animals, leaving in the upper part only a round opening; the borders of theſe ſkins ſerving as a girdle, are faſtened round the body of him who manages the canoe; and that the water may not enter it by this opening, the conductor puts on a ſkirt made of bladders, ſewed very exactly and cloſely together, and conveniently tied upon the borders of the opening. We may conceive theſe boats to be extremely light: their form is exactly that of a harp; their prow has the ſame curve as the bridge whereon the ſtrings of the harp are faſtened. The Indians, who navigated theſe canoes, were clothed in ſkin jackets, which ſufficiently defended them from cold; their hats reſembled thoſe of the inhabitants of Port Bucarelli; large glaſs beads hung from their ears. Their fiſhing inſtruments are darts worked to extreme niceneſs as if a lathe, a large pole, a blown up

tip bladder, a harpoon the point of which is bone, and a long cord made of the entrails of animals, and conveniently twiſted. They dart the harpoon at the otter, or ſea wolf: the animal thus ſtruck endeavours to dive, but the bladder will not allow him; and the Indian preſently draws him within his reach. The young Indians taken on board at Bucarelli were deſirous of communicating with theſe: they did not, however, underſtand one another.

Theſe two canoes engaged the Spaniards to put in at the neighbouring coaſt: they anchored there the 20th of July, at midnight; but early the next day they gained a creek then bearing north of them, at a league diſtance. They were ſheltered from the north-weſt, the north, and ſo on to the ſouth: a little further in, they would have been ſecure from every wind. This harbour, to which they gave the name of *Puerta San Jago*, lies in latitude 60° 13′, and longitude 157° 52′.

To ſatisfy themſelves whether they were near an iſland or a continent, they ſent off the long boat, which, after having ſailed ſix or ſeven leagues to the north-north-weſt, reported, that the coaſt then trended towards the eaſt; whence they concluded, that the land near which they anchored was an iſland*.

Six

* On a ſerious examination, this harbour I think is near Cape Hinchinbroke. Cook made no obſervation upon

Six canoes of Indians, each canoe twenty-ſix cubits long, and four broad, lined with white ſkins, otherwiſe of a conſtruction nearly reſembling that of European boats, paid a viſit to the Spaniards. Before they drew very near they hoiſted three flags, the firſt of a carnation colour, the ſecond white, and the third blue; but they ſtruck them before they came up alongſide the ſhip. They were accompanied by two women, whoſe ſex is diſtinguiſhed by glaſs beads or other baubles hanging from both ſides of the mouth. In other reſpects they are habited nearly in the ſame manner as the women of Port Bucarelli.

The commandant had been once a fiſhing in the long boat, he filled it in a ſhort time with a fiſh agreeable in flavour, which they called *pargo mulato:* but the fiſh which abounds the moſt in theſe ſeas, is the ſalmon; the *pargo mulato* is only plentiful at the bottom of the ſmall creeks upon the ſhore.

The Indians, who inhabit this country, are robuſt, tall in ſtature, and large in proportion;

the environs of this cape, any more than captain Dixon. The long boat might have penetrated into the bay, which is called *Roſe Bay*, upon Dixon's chart; and ſeeing it entirely ſhut up to the eaſt, it might have continued its courſe towards the coaſt, ſtretching along to the north-north-weſt. I think further, that the tranſcriber may have written 157° 52′ for the longitude, inſtead of 153° 52′: the manuſcript abounds in faults.

they

they are induſtrious, and diſpoſed to thieving. The copper points, with which all their arrows are tipped, inclined the Spaniards to think they had mines of this metal in their country.

The 28th of July, our navigators weighed anchor, to ſail round a point which they ſaw to the ſouth-weſt, 5 degrees ſouth, at the diſtance of 11 leagues, (probably the ſouth point of Montagu Iſland). They were deſirous of keeping the land in ſight, but the rain, and the fogs, would not always let them.

The 30th they lay to until the next day, when they diſcovered themſelves to be near a cluſter of iſlands which extended from the ſouth-ſouth-weſt to the ſouth-ſouth-eaſt: they anchored the 1ſt of Auguſt to the ſouth of one of theſe iſlands, which they named *Iſla de Regla;* they place it in 155° 52′ of longitude, by account, and 59° 8′ of latitude, by obſervation *. Don Maurelle believes, that theſe iſlands form that which, upon

* Upon the chart of Prince William's Sound (third volume of Cook's third voyage) there is a place where we may ſuppoſe the group of iſlands of which the Iſla de Regla makes a part; it is to the ſouth-weſt of Montagu Iſland, about lat. 59° 8′ and 210° 30′ to 40′ longitude eaſt from Greenwich, or 151° 40′ to 50′ to the weſt of Paris. Cook paſſed about 15 leagues to the weſtward of theſe iſlands; Dixon as much to the eaſtward of them: theſe iſlands may be too low to be ſeen at this diſtance; they may alſo be more to the weſtward than is imagined.

Bellin's chart, engraved in 1766, is called *Cape de Saint Ermogène:* the latitude is the ſame. The Ruſſians, obſerving this group a great way off, did not diſcern the intermediate channels which divide it into many iſlands, but took it for a point of firm land. Towards the ſouth of the Iſla de Regla are many other iſlands.

The 3d of Auguſt, the ſky being clear, there was ſeen to the north-weſt 7 degrees north, at the diſtance of more than twenty leagues, a mountain certainly higher than the Peak of Teneriffe, quite covered with ſnow. In the evening, by twilight, it was obſerved to vomit torrents of thick ſmoke: the crater from which this ſmoke iſſued was a little more to the eaſt than the ſummit of the mountain, it was judged to be a volcano. Near this mountain another preſented itſelf to view, very high alſo, upon which no remains of ſnow were ſeen; this bore weſt-north-weſt 8 degrees weſt, diſtant fifteen leagues. Afterwards two others were ſeen, the largeſt of which was ſet to the weſt-ſouth-weſt 4 degrees ſouth, at the diſtance of thirteen leagues: theſe two, although high, were much leſs ſo than the preceding, and yet they were totally covered with ſnow.

On the Iſla de Regla were found many ſmall cabins or huts, ſea wolves, nearly flayed, a great number of birds heads, but not one inhabitant.

After a ſtay of two or three days, a canoe appeared off one of the neighbouring points; the Indians uttered ſome words, but they would not come alongſide the frigates.

The expedition of the Spaniards terminated at this iſland. They quitted it on the 7th of Auguſt, and came to anchor at San Blas, the 27th of November. From Cape Saint-Elias to the Iſla de Regla, they took, with the moſt ſcrupulous exactneſs, the bearings of all the iſlands, capes, and bays, which they ſaw; but the winds and the currents, very frequent and very violent in theſe ſeas, drove them off the coaſts oftener than they deſired, and prejudiced the accuracy of their reckoning. Nevertheleſs, if they publiſh the chart they have conſtructed according to their bearings, their obſervations, joined to thoſe of captain Cook, of La Péroufe, and captain Dixon, will contribute not a little to improve the geography of this part of the coaſt of North America.

*End of the Preliminary Part.*

# LA PÉROUSE'S VOYAGE

## *ROUND THE WORLD*

DURING THE YEARS

1785, 1786, 1787 AND 1788.

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### CHAPTER I.

*Object of the armament of the two frigates—Stay in the road of Breſt—Paſſage from Breſt to Madeira and Teneriffe—Stay at thoſe two iſlands—A journey to the Peak—Arrival at Trinidada—We put in at the Iſland of St. Catherine upon the coaſt of Braſil.*

THE ancient ſpirit of diſcovery appeared to be entirely extinct. The voyage made by Ellis, in 1747, to Hudſon's Bay, did not anſwer the expectations of thoſe who advanced money for the adventure. On the 1ſt of January, 1739, captain Bouvet imagined that he ſaw land in 54° ſouth; but it now appears probable that it was only a field of ice; and by this miſtake the progreſs of geography was materially impeded. The ſyſtem-makers, who ſit down in their cloſets, and there draw the figures of lands and iſlands, con-

concluded that the ſuppoſed Cape of Circumciſion was the northern point of a ſouthern continent, the exiſtence of which ſeemed to them demonſtrable as neceſſary to the equilibrium of the globe *.

Theſe

* The partizans of the exiſtence of a Southern Continent will, no doubt, conſider the aſſertion of De La Pérouſe as hazarded. Nevertheleſs, without pretending that Cape Circumciſion, diſcovered by Bouvet, rather belongs to an immenſe field of ice *, than to an iſland; without reſolving the idle problem of the exiſtence of a Southern Continent, which can only be ſituated in a latitude that muſt keep it for ever inſulated from the reſt of the globe, I will venture to ſay that Cook's firſt voyages towards the South Pole have ſufficiently decided the queſtion: and that Le Monnier's diſſertation to prove that Cook did not ſeek Cape Circumciſion in its true longitude has loſt all its importance †, While making my profeſſion of faith in that reſpect—while confeſſing that I believe in the exiſtence of a Southern Continent, I do not think at the ſame time that it is neceſſary to the equilibrium of the globe. Of what conſequence, indeed, could be the weight of ſo ſmall a *protuberance* to ſo enormous a maſs as the globe, in which the ſmalleſt difference of internal homogeneity would be a ſufficient compenſation for ſuperficial ſolidity.

Although captain Cook hopes that *he ſhall hear no more of a Southern Continent* ‡, it will, perhaps, be adviſeable, ſome cen-

* Captain Cook having gone very far to the ſouthward of the land diſcovered by Bouvet, it is clearly impoſſible that Cape Circumciſion can belong to a Southern Continent.

† See the *Memoires de L'Academie DesSciences de Paris*, of the year 1776, page 665; of the year 1779, page 12. See alſo *Cook's ſecond and third voyages*.

‡ *Cook's Third Voyage*, vol. III.

Theſe two voyages are well-calculated to diſcourage individuals, who, out of mere curioſity, ſacrifice conſiderable ſums in an undertaking, which has long ceaſed to engage the attention of the different maritime powers of Europe.

In 1764, England fitted out a new expedition, the command of which was given to commodore Byron. The account of this voyage, like thoſe of Wallis, Carteret, and Cook, is well known.

In the month of November 1766, M. de Bougainville ſailed from Nantz with the Boudeuſe frigate, and E'toile *Flute*. He followed nearly the ſame track as the Engliſh navigators, and diſcovered ſeveral iſlands. The account of his voyage compoſed in an intereſting manner, contributed not a little to give the French that taſte for diſcoveries which had lately been revived in England with ſo much energy.

centuries hence, to aſcertain the progreſs that the ice may make towards the Equator, and thus to bring Buffon's ingenious ſyſtem of the gradual refrigeration of the globe to the proof. But it will require a good many ages to obtain a probable reſult; for, in different years, and at the ſame time of the year, navigators have met with ice in higher or lower latitudes. It is ſaid, that the whale-fiſhers, who go annually to Spitzbergen, once advanced within a degree of the pole. It alſo appears that Lorencio Ferrer de Maldonado, of whom I ſhall ſpeak elſewhere, ſailed through a north paſſage, which our moſt intrepid navigators have never been able to find, having been conſtantly repelled by the ice.

In

In 1771, M. de Kerguelen was ſent upon a voyage towards the Southern Continent, the exiſtence of which at that time no geographer ventured to diſpute. In the month of December of the ſame year, he got ſight of an iſland, but was prevented from exploring it completely by the badneſs of the weather. Full of the ideas of all the learned men in Europe, he made no doubt of his having perceived one of the capes of the Southern Continent; and ſo eager was he to bring home the news, that he did not delay his return a ſingle moment. He was received in France like another Columbus; and immediately after a ſhip of the line and a frigate were equipped to continue ſo important a diſcovery. This extraordinary choice of veſſels would alone ſuffice to ſhew that enthuſiaſm ſuperſedes all reaſon and reflection. M. de Kerguelen received orders to go and make a ſurvey of the ſuppoſed continent he had diſcovered. The bad ſucceſs of his ſecond voyage is well known; but even captain Cook, the moſt ſkilful of navigators, would not have ſucceeded in ſuch an enterprize with a ſhip of 64 guns, a frigate of 32, and a crew of ſeven hundred men; perhaps, indeed, he would not have accepted ſuch a command, or would have procured the adoption of other ideas. However this may be, M. de Kerguelen returned to France with no better information than before; and all idea of farther

farther diſcoveries was laid aſide. The King died in the courſe of this laſt expedition. The war of 1778, directed the views of the nation to far different objects; but we did not forget that our enemies had the Reſolution and Diſcovery at ſea, and that captain Cook, by labouring for the extenſion of human knowledge, had a claim to the friendſhip of every country in the univerſe*.

The principal end of the war of 1778 was to ſecure the tranquillity of the ſeas; and that end was attained by the peace of 1783. The ſame ſpirit that made us take up arms in order that the flags of the nations, the leaſt powerful at ſea, ſhould be reſpected as much as thoſe of France and England, neceſſarily directed itſelf during the peace to whatever might tend to the general benefit of mankind. The ſciences, by ſoftening the

* Every thing concurs here to make me record a fact equally glorious to the French, and to him, who in the midſt of a war politically neceſſary, became the object of it.

At the commencement of hoſtilities againſt England, in 1778, an order was given to all French ſhips that might fall in with the Reſolution and Diſcovery, commanded by captain Cook, to let them paſs freely without examining them; and, far from treating them as enemies, to furniſh them with all aſſiſtance of which they might ſtand in need.

It is thus that a great nation ſhews a religious reſpect for the progreſs of the ſciences, and of uſeful diſcoveries. *(Fr. Ed).*

manners

manners of men, have, perhaps, contributed even more than good laws to the happineſs of ſociety.

The voyages of different Engliſh navigators, while extending human knowledge, deſerved the juſt admiration of the whole world. All Europe accordingly ſet the higheſt value upon captain Cook's talents, and upon the firm temper of his mind. But in ſo vaſt a field there will be room to acquire freſh knowledge for centuries to come—coaſts to ſurvey; plants, trees, fiſh, and birds to deſcribe; minerals and volcanoes to obſerve; nations to ſtudy, and perhaps to render more happy, ſince a farinaceous plant, or a new ſpecies of fruit, muſt be ineſtimable benefits to the inhabitants of the iſlands in the South Sea *.

Theſe

* Can the benefit derived from a new farinaceous plant, or a new fruit, or even the introduction of domeſtic animals, be compared to the ſum of evil which thoſe people will find to reſult from the adoption of European cuſtoms and manners?

After examining this problem in a philoſophical, political, and even a religious point of view; after enquiring what they poſſeſs, with the conviction we muſt naturally feel that their deſire of more can only be produced by knowledge they at preſent have not; we ſhall conclude, I think, by ardently wiſhing that they may long enjoy their happineſs, and that unalterable tranquillity which is founded upon content of mind, an unreſtrained enjoyment of the ſentiments of the heart, and the obſervance of laws derived from nature herſelf.

The

Theſe different reflections ſuggeſted the project of a voyage round the world; and ſcientific men of all deſcriptions were enrolled in the expedition.

The following paſſages, extracted from *Cook's third voyage*, give powerful ſupport to my opinion.

"When the Adventure arrived firſt at Queen Charlotte's Sound, in 1773, Mr. Bayley fixed upon this place for making his obſervations; and he and the people with him, at their leiſure hours, planted ſeveral ſpots with Engliſh garden ſeeds. Not the leaſt veſtige of theſe now remained. Though the New Zealanders are fond of potatoes, it was evident that they had not taken the trouble to plant a ſingle one (much leſs any other of the articles which we had introduced) and if it were not for the difficulty of clearing the ground where potatoes had been once planted, there would not have been any now remaining, &c." vol. I, page 125.

"Theſe two chiefs became ſuitors to me for ſome hogs and goats. Accordingly I gave to Matahonah two goats, a male, and a female with kid; and to Tomatongeauooranue two pigs, a boar, and a ſow. They made me a promiſe not to kill them; though I muſt own I put no great faith in this. The animals which captain Furneaux ſent on ſhore here, and which ſoon after fell into the hands of the natives, I was now told were all dead, &c." vol. I, page 131.

"He (Faweikaroon) ſaid that the captain of her, during his ſtay here, cohabited with a woman of the country, and that ſhe had a ſon by him, ſtill living, and about the age of Kokoa; who, though not born then, ſeemed to be equally well acquainted with the ſtory. We were alſo informed by Taweikarooa that this ſhip firſt introduced the venereal diſeaſe amongſt the New Zealanders. I wiſh that ſubſequent viſitors from Europe may not have their ſhare of guilt in leaving ſo dreadful a remembrance of them among this unhappy race, &c. &c." vol. I, page 141. *(Fr. Ed.)*

M. Dagelet,

M. Dagelet, of the academy of ſciences, and M. Monge*, embarked in quality of aſtronomers; the former on board the Bouſſole, and the latter on board the Aſtrolabe. M. de Lamanon, a member of the academy of Turin, and a correſpondent of the academy of ſciences, was charged with the department of the natural hiſtory of the earth and it's atmoſphere, otherwiſe called geology. The abbé Mongés, a regular canon of St. Genevieve, and editor of the *Journal de Phyſique*, undertook to examine and analize mineral ſubſtances, and to contribute to the progreſs of the different branches of phyſicks. M. de Juſſieu recommended M. de la Martiniere, a phyſician of the college of Montpellier, for the botanical department. He had as an aſſiſtant a gardener from the King's garden, whoſe ſpecial duty it was to cultivate and preſerve the plants and ſeeds that it might be poſſible to bring to Europe. This was M. Collignon, who embarked upon the recommendation of M. Thouin. Meſſieurs Prevoſt, uncle, and nephew, were engaged to paint every thing belonging to natural hiſtory. M. Dufreſne, a great naturaliſt, particularly ſkilful in claſſing all the productions of nature, was ſent to us by the controller-general of the finances. And laſtly, M. Duché de Vancy

* The health of M. Monge became ſo bad, in his paſſage from Breſt to Teneriffe, that he was obliged to go on ſhore, and to return to France.

received

The Meridian of Greenwich is 2 Deg. 25 Min. to the West of Paris.
A CHART
of the
GREAT OCEAN
OR SOUTH SEA
Conformably to the
Account of the Voyage of Discovery of the
French Frigates
LA BOUSSOLE & L'ASTROLABE,
in the Years
1785, 86, 87, and 88.
Longitude East 150 from Paris.
Longitude West 120 from Paris.
SEA OF TUNGUSI OCHOTSK
SEA OF KAMTSCHATKA
NORTH AMERICA
HUDSONS BAY
LABRADOR
NEW SOUTH WALES
NEW BRITAIN
EASTERN TARTARY
MINSHURS TARTARY
TUNGUSIAN TARTARS
CHINA
Pekin
Canton
Philippine Isles
Carolines
Gilolo I.
Moluccas
NEW HOLLAND
NEW ZEALAND
New Caledonia
Friendly Isles
Otaheite
Sandwich Islands
Owhyhee Isles
Marquesas
Navigators I.
Society Isles
Tropic of Cancer
Tropic of Capricorn
Equinoctial Line
Nootka Sound
New Albion
New Mexico
California
Gulf of Mexico
Florida
Virginia
Pennsylvania
New England
Nova Scotia
Newfoundland
Canada
Jamaica
Bay of Campeachy
Caribbean Islands
St Domingo
Cuba
Bahama Islands
Tierra Firma
New Granada
Caraca
Gallapagos
SOUTH AMERICA
Peru
Chili
Paraguay
Patagonia
Falkland I.
Magelhanes Str.
Tierra del Fuego
Cape Horn
Port Jackson
Botany Bay
Endeavour Str.
Queen Charlotte's I.
Bristol Bay
Behrings Str.
Kamtschatka
Japan
Corea
China
Nankin
Canton
Formosa I.
Philippine Isles
Moluccas
Celebes
Borneo
Java
Sumatra
Timor
Ladrone Isles
Marian Isles
Sandwich Islands
Otaheite
Friendly Isles
New Caledonia
New Hebrides
Navigators Isles
Marquesas
Society Isles
Owhyhee Isles
Easter Isle
Juan Fernando
Valparaiso
Conception
Buenos Ayres
Rio Janeiro
Cape Horn
Falkland I.
Magelhanes Str.
Tierra del Fuego
Cape Blanco
Cape Mendocino
Port St Francis
Monterey
Port St Diego
Cape Corrientes
Acapulco
Panama
Bay of Campeachy
Jamaica
Cape Charles
Chesapeak Bay
Cape Florida
Cape Breton
Halifax
Quebec
Hudsons Bay
Labrador
Newfoundland
great Bank
Nova Scotia
New England
Pennsylvania
Virginia
Carolina
Georgia
Florida
Bahama Islands
Cuba
St Domingo
Caribbean Islands
Tierra Firma
New Granada
Caraca
Gallapagos
Peru
Chili
Paraguay
Patagonia
Falkland I.
Magelhanes Str.
Tierra del Fuego
Cape Horn
Port Jackson
Botany Bay
Endeavour Str.
Queen Charlotte's I.
Bristol Bay
Behrings Str.
Kamtschatka
Japan
Corea
China
Nankin
Canton
Formosa I.
Philippine Isles
Moluccas
Celebes
Borneo
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Marquesas
Society Isles
Owhyhee Isles
Easter Isle
Juan Fernando
Valparaiso
Conception
Buenos Ayres
Rio Janeiro
Cape Horn
Falkland I.
Magelhanes Str.
Tierra del Fuego

received orders to embark, in order to paint the dreſſes and ſcenery of the different countries we might viſit, and every thing elſe that it is impoſſible to deſcribe. All the learned bodies in the kingdom were deſirous upon this occaſion of manifeſting their ardent zeal for the progreſs of the arts and ſciences. The academy of ſciences, and the medical ſociety, addreſſed each a memoir to the Maréchal de Caſtries, concerning the moſt important obſervatioas we ſhould have to make in the courſe of our voyage.

The abbé Teſſier, of the academy of ſciences, propoſed a method of keeping freſh water ſweet. M. Du Fourni, an architect, alſo communicated to us his obſervations upon trees, and upon the level of the ſea.

M. Le Dru ſent us a memoir in which he recommended the making of ſeveral obſervations upon the magnet, in different latitudes and longitudes, and added to it a dipping compaſs of his own making, begging us to compare it's reſult with that which ſhould be given by the two inſtruments of the ſame kind lent to us by the commiſſioners of the Engliſh board of longitude. Here I cannot help expreſſing my gratitude to Sir Joſeph Banks, who, upon hearing that M. Monneron could procure no dipping compaſs at London, was good enough to lend us thoſe that had been made uſe of by the celebrated captain

Cook. I received them with a ſentiment of religious reſpect for the memory of that great man.

M. De Monneron, a captain in the corps of engineers, who had accompanied me in my expedition to Hudſon's Bay, embarked in quality of chief engineer. His friendſhip for me, as well as his fondneſs for travelling, induced him to ſolicit the appointment.

In the laſt place, M. De Fleurieu, an old poſt captain in the navy, and director of the ports and arſenals, conſtructed himſelf the charts that we were to uſe during the voyage. He added a whole volume of the moſt learned notes and diſquiſitions concerning the different navigators from Chriſtopher Columbus to the preſent time. I owe him a public teſtimony of my gratitude for the information I have received from him, and for the many proofs of friendſhip he has given me*.

* The loſs of our navigators, an event regretted by all Europe, is particularly injurious to the arts and ſciences. The immenſe collection made by the men of ſcience, and a part of the memoirs, periſhed with them. The reader muſt not expect to find, in the atlas, all the details that the journal ſeems to indicate. This voyage, which in its preſent ſtate is highly intereſting, would, but for its tragical event, have afforded a complete body of information of the moſt valuable kind. If any hope yet remain, it is very weak indeed, and grows ſtill weaker every day. *(Fr. Ed).*

The Maréchal De Caſtries, miniſter of the marine, who recommended me to his Majeſty for the command, ſent the moſt poſitive orders to the different ports to furniſh us with whatever might contribute to the ſucceſs of the expedition. Lieutenant General D'Hector, commandant of the naval department at Breſt, entered into his views, and attended to all the particulars of the out-fit as if the command had been his own. Having been empowered to appoint my own officers, I choſe for the command of the Aſtrolabe, M. De Langle, a poſt captain, who commanded the Aſtrée in my expedition to Hudſon's Bay, and who had given on that occaſion the greateſt proofs of abilities and energy of mind. A hundred officers offering themſelves to M. De Langle and me, to ſerve in the expedition, we were enabled to ſelect from among them as many men of diſtinguiſhed profeſſional talents as we wanted. At length, on the 26th of June, my inſtructions were delivered to me; and on the 1ſt of July I ſet off for Breſt. I arrived there on the 4th, and found the equipment of the two frigates in great forwardneſs. The ſhipping of a variety of things had been deferred, becauſe it was neceſſary to make an option between articles in requeſt among the ſavages, and proviſions of which I wiſhed to have a ſufficient quantity for ſeveral years. I gave the pre-

ference to the former, conſidering that with them we ſhould be able to procure freſh ſtock; and that at the end of a certain time the ſhips proviſions would be almoſt entirely decayed.

We had on board, beſides, the frame of a decked boat*, of about twenty tons burthen, two pinnaces, *(chaloupes biſcayennes)* †, and a ſpare mainmaſt, tiller, and capſtan. The whole quantity of things contained in the Bouſſole, was really incredible. M. De Clonard, my ſecond captain, had ſtowed her with that zeal and intelligence of which he has given ſo many proofs. The Aſtrolabe had taken on board exactly the ſame articles as ourſelves. On the 11th, we were in the road, our veſſels being ſo encumbered that it was impoſſible to heave at the capſtan; but we had a favourable ſeaſon for our departure, and were in hopes of reaching Madeira without encountering any bad weather. M. D'Hector or-

* Or *boyer*, a very ſtrong kind of veſſel, with flat floor timbers, uſed in Flanders and Holland, and very fit for inland navigation. *(Fr. Ed.)*

† *Barca-longa*, boats uncommonly long, and very ſharp at the extremities, well contrived to navigate in the ſwell of a ſea. *(Fr. Ed.)*

Whenever this word has occurred, it has been tranſlated *pinnace*, which is a kind of boat that appears to be more anſwerable to the above deſcription than any other in uſe in the Britiſh navy, though it is certainly not the ſame as the *barca-longa*. *(T.)*

dered

dered us to anchor in the road with harbour moorings, that we might have nothing to do but to ſlip the cables whenever the wind ſhould permit us to ſail.

On the 12th, our crews were muſtered. On the ſame day the aſtronomical clocks intended to aſcertain, when in port, the daily rate of our time-keepers, were put on board both ſhips. The latter had been embarked and under obſervation for a fortnight before. Meſſieurs Dagelet, and Monge, and the reſt of the ſcientific men and artiſts, had reached Breſt earlier than I; and even before the arrival of the two aſtronomers, Meſſieurs De Langle, and D'Eſcures, had obſerved the going of the time-keepers. Unfortunately the aſtronomical clock with which they had been compared, was found to be ſo bad that it was neceſſary to do all the work over again.

On the 13th, in the evening, M. Dagelet delivered to me the following note:

"On our arrival at Breſt we found an aſtronomical ſtation eſtabliſhed in the intendant's garden where Meſſieurs De Langle, and D'Eſcures, buſied themſelves in making obſervations in order to determine the rate of going of the time-keepers. But, as the inſtruments of the academy of Breſt were in very bad order, particularly the aſtronomical clocks they had made uſe of, they perceived, after ſeveral days obſervation, that it was neceſſary to make the compariſons relative to

the time-keepers by referring them all to No 25*, which was in the obſervatory. When our inſtruments were ſet up on ſhore, I determined the rate of going of my clock, by altitudes of the ſun and ſtars, comparing every day the time-keepers, No. 18, and No. 19, by means of ſignals made on board. Thence I formed the following table of their daily rate:"

| Days of the Month. | No. 18. Loſs upon the mean time of Paris. | No. 19. Loſs upon the mean time of Paris |
|---|---|---|
| June 28 | 36′ 48″, 8. | 27′ 51″, 0. |
| 30 | 37 07, 1. | 27 47, 7. |
| July 1 | 37 19, 0. | 27 45, 0. |
| 2 | 37 31, 0. | 27 44, 2. |
| 3 | 37 39, 5. | 27 45, 4. |
| 4 | 37 51, 8. | 27 44, 0. |
| 5 | 38 05, 0. | 27 42, 0. |
| 6 | 0 0. | 27 42, 1. |
| 7 | 38 36, 7. | 27 42, 1. |
| 8 | 38 49, 3. | 0 0. |
| 9 | 39 03, 0. | 27 48, 8. |
| 10 | 39 13, 6. | 27 42, 5. |
| 11 | 39 27, 0. | ſtopped. |
| 12 | 0 0. | 0 36, 6. |
| 13 | 0 0. | 0 36, 4. |

* All the time-keepers embarked on board the two frigates were invented and conſtructed by Ferdinand Berthoud, who diſtinguiſhed them by numbers. *(Fr. Ed.)*

The

The weſterly winds kept us in the road till the 1ſt of Auguſt. The weather in the mean time being foggy with ſhowers of rain, I was afraid that the humidity might affect the health of our crews. In the ſpace of nineteen days however we only landed a ſingle man with a fever; but we diſcovered that ſix ſailors and a ſoldier, infected with the venereal diſeaſe, had eſcaped the examination of our ſurgeons.

I ſailed from Breſt Road on the 1ſt of Auguſt. Nothing intereſting occurred during the run to Madeira, where we anchored on the 13th. The wind had been conſtantly fair, a circumſtance highly neceſſary to ſhips which, being too much by the head, ſteered very ill. M. De Lamenon obſerved the luminous particles in the ſea water, which, in my opinion, proceed from the diſſolution of marine bodies. If this light were produced by inſects, as many natural philoſophers affirm, they would not be ſpread with ſuch profuſion from the pole to the equator, but would affect particular climates*.

Before

* After the reſult of the experiments preſented by Rigaud, in 1768, to the academy of ſciences, it is impoſſible to doubt the exiſtence of *polypi*, or luminous animals in the ſea. I do not know upon what La Pérouſe can ground an aſſertion, combated by Godeheau, who obſerved at the Maldives, and on the Coaſt of Malabar, places where the ſea is more luminous than in the latitudes of which our navi-

Before we were well at an anchor, Mr. Johnſton, an Engliſh merchant, ſent a boat laden with fruit on board of my ſhip. Several letters of recommendation to that gentleman from London had preceded me, and ſurprized me much, as I was entirely unacquainted with the perſons by whom they were written. The reception given us by Mr. Johnſton was ſo kind, that we could not have expected a better from our relations, or our beſt friends. After having paid our reſpects to the governor, we went to dine at his houſe. The next day we breakfaſted at the charming country ſeat of Mr. Murray, the Engliſh conſul, and returned to town to dine with M. Montero, *Chargé des Affaires* of the French conſulate. During the whole of that day, we enjoyed all

gator is ſpeaking, that the water was covered with little living luminous animals, emitting a kind of oily liquor, which floated on the ſurface, and diffuſed, when agitated, a phoſphoric light.

I believe then in the exiſtence of theſe animals, which is maintained by Nollet, Roy, Vianelli, Griſellini, &c. I alſo think that the phoſphoric oil of certain fiſhes, being carried to the ſurface of the water, produces in part that light which is perceptible in every ſea.

I can adduce in ſupport of my opinion the effect of the oil of the bonetta, which becomes luminous when ſhaken. Forſter's obſervations on the phoſphoric light of ſea water, at the end of *Cook's ſecond voyage*, and thoſe of Lalande, in the *Journal des Savans*, 1777, may alſo be conſulted. *(Fr. Ed).*

the

the pleaſure that the moſt ſelect company, and the kindeſt attentions can afford, and were at the ſame time highly delighted with the ſituation of Mr. Murray's villa. Our eyes could only be drawn off the beauties of the proſpect by the conſul's three pretty nieces, who came to prove to us that nothing was wanting in that enchanting abode. But for the imperious circumſtances in which we were placed, nothing would have been more agreeable to us than to paſs a few days at Madeira, where we were welcomed in ſo obliging a manner; but the object of our putting in there could not be attained. The Engliſh having raiſed the price of wine to an exceſſive height, we ſhould not have been able to procure any for leſs than thirteen or fourteen hundred livres per caſk, containing four barrels; the ſame quantity at Teneriffe, coſting only ſix-hundred livres. I therefore ordered every thing to be prepared for ſailing on the following day, namely, the 16th of Auguſt. The ſea breeze did not give over blowing till ſix o'clock in the evening, and immediately after we got under way. I had received another preſent from Mr. Johnſton conſiſting of rum, preſerved citron, a hundred bottles of Malmſey Madeira, a barrel of dry wine, and a prodigious quantity of fruit. From my arrival at Madeira, every moment of my

my ſtay was marked by the moſt polite attentions on his part.

Our run to Teneriffe took only three days. We anchored there on the 19th, at three o'clock in the afternoon. On the 18th, in the morning, I got ſight of Salvage Iſland, and ran down the eaſt ſide of it, at the diſtance of about half a league. The coaſt is ſafe; and although I had no opportunity of ſounding, I am convinced that there is a hundred fathoms water, at a cable's length from the land. This iſland, on which there is not a ſingle tree, is entirely parched up. It appears formed of different ſtrata of lava, and other volcanic matter. We took ſeveral bearings of it, in order to determine its poſition.

The different obſervations of Meſſieurs De Fleurieu, Verdun, and Borda, are perfectly ſatisfactory as to the iſlands of Madeira, the Salvages, and Teneriffe. Ours had conſequently no other object than that of aſcertaining the truth of our inſtruments, and the rate of going of our time-keepers, which had been determined at Breſt by M. Dagelet, ſufficiently well for us to depend upon the longitude they might give for ſeveral days together. Our making the iſland of Madeira, afforded us an excellent opportunity of judging of the degree of preciſion we had a right to expect from them. The longitude that we obſerved

obſerved within ſight of land, reduced to that of Funchal Bay, only differed three minutes of a degree from that which had been determined by M. Borda.

The ſhort ſtay we made at that iſland did not permit us to ſet up an obſervatory. Meſſieurs Dagelet, D'Eſcures, and Boutin, took only a few bearings from our anchorage, of which I had no plan laid down, becauſe it is to be found in a variety of printed voyages. On the 18th of Auguſt we employed ourſelves in taking bearings of the Salvages, of which I think I may venture to fix the weſt longitude at 18° 13′, and the north latitude at 30° 8′ 15″.

As ſoon as I arrived at Teneriffe, I employed myſelf in the erection of an obſervatory on ſhore. Our inſtruments were placed in it on the 22d of Auguſt, and we determined the rate of going of our aſtronomical clocks, by correſponding altitudes of the ſun and ſtars, in order to aſcertain as ſpeedily as poſſible the movement of the time-keepers on board the two ſhips. All theſe details will be found at the end of the work. The reſult of our obſervations ſhewed that the error of No. 19, was only a loſs of 18″ ſince July 13, the laſt day of our obſervations at Breſt; and that our ſmaller time-keepers, No. 29, and No. 25, had alſo loſt time, the firſt 1′ 0″, 7, and the ſecond only 28″. Thus, in the ſpace of forty-three days, the

the greateſt error was only a quarter of a degree in longitude. After ſeveral days of obſervation and regular compariſons, we ſettled the new daily rate of the above time-keepers. M. Dagelet found that No. 19, gained 2″, 55, in twenty-four hours, and that Nos. 29, and 25, gained reſpectively 3″, 6, and 0″, 8, in the ſame ſpace of time. It was from theſe elements that he drew up the table of their apparent movements, regard being had to the corrections which are required by the variations reſulting from the effect of the temperature of the air, according to the different degrees of the thermometer, and of the arcs of the balance wheel. M. Dagelet had ſome doubts concerning the manner of conſtructing the table of variation for No. 19, upon the few *data* furniſhed by the experiments made at Paris. He conſequently judged that it would be highly advantageous to thoſe who uſe time-keepers at ſea, if a greater number of experiments were made, and if fewer terms were left to be calculated in the interpolations he was obliged to make, in order to obtain thoſe *data*, eſpecially if the arcs of the balance wheel enter into this kind of correction. In that caſe a table with a double entry would be required, and doubts would remain concerning the manner in which the ordinates of the curve ought to vary. He made experiments with the ſimple pendulum on the 27th, 28th, and

29th

29th of Auguſt, and obſerved the number of oſcillations in a given time, in order to determine the force of the gravitation of bodies in different latitudes. Several obſervations were made relative to the latitude and longitude at Santa Cruz in Teneriffe, the poſition of which we think may be fixed at 18° 36′ 30″ weſt longitude, and 28° 27′ 30″ north latitude. At length we terminated our labours by experiments on the dipping compaſs. We found little agreement in the reſults, and we only inſert them to prove how far this kind of inſtrument is ſtill from the point of perfection neceſſary to procure it the confidence of obſervers. We preſume, however, that the quantity of iron with which all the ſoil of the Iſland of Teneriffe is impregnated, contributed not a little to the enormous differences we remarked. Theſe various reſults will be found, as I have already ſaid, at the end of the work.

On the morning of the 30th of Auguſt, I ſailed with a freſh breeze from the north-north-eaſt. We had taken ſixty pipes of wine on board of each ſhip, which obliged us to unſtow half our hold in order to come at the empty caſks which were deſtined to contain it. This buſineſs occupied us ten days. It is true that the principal delay was occaſioned by the tardineſs of the merchants who furniſhed the wine, which came from Oratuva,

Oratuva, a ſmall town ſituated on the other ſide of the iſland.

I have already given an account of the manner in which our aſtronomers had employed their time. Our naturaliſts wiſhing alſo to avail themſelves of our ſtay in the road of Santa Cruz, ſet off for the peak, accompanied by ſeveral officers of the two ſhips. M. De La Martinière botanized on the way, and found ſeveral curious plants. M. De La Martinière meaſured the height of the peak with his barometer which fell upon the ſummit of the mountain to 18 inches, four lines, and $\frac{1}{10}$. By an obſervation made at the ſame inſtant at Santa Cruz, it was at 28 inches three lines. The thermometer which indicated 24° $\frac{1}{2}$ at Santa Cruz, was conſtantly at 9° on the top of the peak. I leave every one to calculate the height for himſelf. This manner being ſo little ſatisfactory, that I prefer the *data* to the reſults*. M. de Monneron, captain in the corps of Engineers, alſo made a journey to the peak with the intention of taking levels down to the ſea ſhore. It was the only manner of meaſuring this mountain that had never been attempted. Local difficulties, unleſs entirely inſurmountable, would not have ſtopped him,

* Thoſe who wiſh to make the calculation will find the *data* that are wanting here, in all the works of natural philoſophy; but if they wiſh to operate with any accuracy according

him, becauſe he was very much accuſtomed to operations of the kind. When upon the ſpot he found the obſtacles much ſmaller than he had imagined, for in one day he had got through all that was difficult. He was come to a kind of plain, ſtill indeed at a great elevation, but of eaſy acceſs, and was congratulating himſelf upon the proſpect of ſoon arriving at the end of his taſk, when difficulties were ſtarted by his guides, which he found it impoſſible to overcome. Their mules had not drunk for ſixty-eight hours, and neither prayers nor money could prevail upon the muleteers to make a longer ſtay. M. De Monneron was therefore under the neceſſity of leaving a work incomplete, which he had conſidered as finiſhed, and which had coſt him incredible pains, and rather a conſiderable ſum of money; for he had been obliged to hire ſeven mules, and eight men to carry his baggage, and aſſiſt him in his operations. In order that he might not entirely loſe the fruits of his labour, he determined the principal points;

cording to this manner of meaſuring heights, they muſt not forget to make the neceſſary corrections relative to the temperature of the air. The difference of the logarithms of the heights of the barometer in lines, gives the height in toiſes at 16° ¾ of the mercury thermometer which indicates 80° for the heat of boiling water: $\frac{1}{215}$ muſt be deducted for each degree of cold. Deluc, *Recherches ſur les modifications de l'atmoſphère.—Fr. Ed.*

and

and a day would now suffice to complete the levels, which would afford a more satisfactory result than any which travellers * as yet have given.

* The result of De Monneron's labours, mentioned here, never reached Europe. There is reason to believe that he had marked the end of his operations in such a way as to enable any other traveller to continue them. I should imagine that he made use of a water level, notwithstanding the inconveniences attending such an instrument in rapid descents. If he had finished his task, he would have decided among all those who, having measured the peak, each in his own way, have assigned to it very different degrees of elevation.

However defective, long, and difficult this mode of measuring heights may be, its inconveniences disappear when it is employed by a man well versed in the art. It is certain that an operation like the one in question, would not require more than a thousand stations. Now supposing an error of three lines to take place at each station, which is almost impossible; and supposing that these three lines of error should not mutually correct one another, but should always be on one side, which is still less possible, the whole difference at the end of the operation would be only three thousand lines, or three toises two feet ten inches. And, after all, this difference, which is grounded upon such an improbable supposition, is nothing in comparison of that which different travellers have found, since Heberden makes the height of the peak - - - - 2,409 toises.

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|---|---|
| Feuillée (*Memoires de l'academie des sciences, année* 1746, page 140) - - | 2,213 |
| Bouguer - - - - | 2,100 |
| And Verdun, Borde and Pingré - | 1,904 |

(*Fr. Ed.*)

The

The Marquis De Branciforte, major-general, and governor-general of all the Canary Iſlands, paid us the greateſt attentions during the whole of our ſtay in the road of Santa Cruz.

We could not get under way till three o'clock in the afternoon of Auguſt 30. Our decks were ſtill more lumbered with ſtores than at our departure from Breſt, but every day would diminiſh them; and we had nothing but wood and water to look for till our arrival at the iſlands of the South Sea. I preſumed that I ſhould be able to procure both thoſe articles at Trinidada, for I was determined not to touch at the Cape de Verd Iſlands, which at this ſeaſon of the year are very unwholeſome; and the health of our crews was naturally my firſt conſideration. It was to preſerve it, that I ordered the between-decks to be fumigated, and the hammocks to be taken down every day from eight o'clock in the morning till ſun-ſet. But in order that every one might have ſufficient time to ſleep, the crew was put at three watches, ſo that eight hours of reſt followed four of duty. As I had no more men on board than were abſolutely neceſſary, this regulation could only hold good in calm ſeas; and I was compelled to return to the old cuſtom in ſtormy latitudes. Our run, as far as the line, was attended by no remarkable circumſtance: the trade wind deſerted us in 14° of north latitude, and blew conſtantly from

the weſt-ſouth-weſt till we reached the line. It forced me to follow the coaſt of Africa, which I ran down at the diſtance of about ſixty leagues.

We croſſed the equator on the 29th of September in the 18th degree of weſt longitude. I could have wiſhed, in compliance with my inſtructions, to have been able to paſs it much more to the weſtward; but fortunately the wind drove us conſtantly to the eaſtward. But for this circumſtance, I ſhould have found it impoſſible to make Trinidada; for at the line we met with a ſouth-eaſt wind, which purſued me as far as 20° 25′ ſouth latitude, ſo that I conſtantly ſteered cloſe to the wind, and was not able to fetch the latitude of Trinidada till I was only about twenty-five leagues to the eaſtward of it. If I had made Pennedo de San Pedro*, I ſhould have been hard put to it to weather the eaſt point of the Braſils.

I paſſed, according to my reckoning, over the ſhoal on which the *Prince* was ſuppoſed to have touched in 1747. We ſaw no ſigns of land except ſome of the birds called man-of-war birds, which followed us in conſiderable numbers from 8° north latitude, till we were three degrees to

* The making of this iſland was not enjoined by my inſtructions, but merely indicated, *in caſe it ſhould oblige me to turn little or nothing out of my way.*

the ſouthward of the line. Our ſhips were at the ſame time ſurrounded with tunny fiſh; but we caught very few, becauſe they were ſo large that they broke all our lines. Every one of thoſe we got on board weighed at leaſt ſixty pounds.

Thoſe ſeamen who are afraid of meeting with calms at this ſeaſon under the line, are greatly miſtaken. We had not a ſingle day without wind, nor had we rain more than once; it was then, indeed, ſufficiently abundant to enable us to catch twenty-five barrels full.

The fear of being carried too far eaſt into the gulf of Guinea, is alſo chimerical. The ſouth-eaſt winds begin to blow at a very early period, and carry you but too rapidly to the weſtward. Had I been better acquainted with this navigation, I ſhould have ſtood more away with the ſouth-weſt winds that conſtantly prevailed to the north of the line, which I might have croſſed in longitude 10°. I might then have run down the parallel of Trinidada with the wind large. A few days after our departure from Teneriffe, we loſt that clear ſky which is only to be found in the temperate zone. A dull whiteneſs, a medium between clouds and fog, continually obſcured the atmoſphere, ſo that the horizon ſeldom extended three leagues; but after ſun-ſet, this vapour diſappeared, and the night never failed to be fine.

On the 11th of October we made a great number of obſervations of the diſtance from the ſun to the moon, in order to determine the longitude, and to aſcertain the rate of going of our time-keepers. By a mean term between ten lunar obſervations taken with circles and ſextants, we found our weſt longitude to be 25° 15′. At three o'clock in the afternoon, that given by the time-keeper, No. 19, was 25° 47′. We made obſervations of this kind repeatedly.

The 12th, about four o'clock in the afternoon, the mean reſult gave 26° 21′ for the longitude of the ſhip; and the time-keeper, No. 19, at the ſame inſtant, 26° 33′. By comparing theſe two reſults together, it appears that the longitude given by No. 19 was 12′ farther weſt than that obtained by lunar obſervations. It was by means of theſe operations that we determined the poſition of the iſlands of Martin Vas, and of the iſland of Trinidada. We have alſo determined the latitudes very accurately, not only by diligently obſerving the meridian altitude of the ſun, but by taking a great number of altitudes near the meridian, and reducing them to the true time of noon found by correſponding altitudes. The greateſt errors we can have committed, by operating in this way, does not exceed 20″.

The 16th of October, at ten o'clock in the morning, we got ſight of the iſlands of Martin Vas,

Vas, bearing north-weſt, five leagues diſtant. According to our reckoning, they ſhould have bore weſt, but the currents had drifted us 13′ to the ſouthward during the night. Unfortunately the wind, which till then had been conſtantly at ſouth-eaſt, forced me to make ſeveral boards to approach thoſe iſlands, which I paſſed within the diſtance of a league and a half. After having well determined their poſition, and taken bearings, in order to be able to lay down upon the plan their poſitions reſpectively to each other, I ſtood cloſe to the wind, upon the ſtarboard tack, towards the iſland of Trinidada, which lies nine leagues from Martin Vas, in the direction of weſt-by-ſouth. Theſe iſlands of Martin Vas are, properly ſpeaking, nothing but rocks. The largeſt may be about a quarter of a league in circumference. There are in all three iſlots, ſeparated from one another by very ſmall intervals, and appearing, when ſeen from ſome diſtance, like five heads of land.

At ſun-ſet, I got ſight of the iſland of Trinidada, which bore weſt 8° north. The wind being ſtill at north-north-weſt, I paſſed the night in making ſhort boards, keeping on the eaſt-ſouth-eaſt ſide of the iſland. When day-light came, I continued my tack towards the ſhore, in hopes of finding ſmoother water under ſhelter of the land. At ten in the morning, when I was only two leagues diſtant from the ſouth-eaſt point which bore north-

north-weſt, I perceived at the bottom of an inlet formed by that point, the Portugueze flag flying in the midſt of a ſmall fort, round which were five or ſix wooden houſes. The ſight of this flag excited my curioſity, and I reſolved to ſend a boat aſhore to learn the particulars of its evacuation, or ceſſion, by the Engliſh; for I began already to ſee that Trinidada would neither afford me the wood nor water of which I ſtood in need. All the trees we could perceive were a few ſcattered over the tops of the mountains. The ſea broke with ſo much fury, that we could not ſuppoſe it poſſible for our long-boats to land with any degree of facility. I therefore determined to make boards during the whole of the day, that I might find myſelf the next morning ſufficiently to windward, to fetch the anchorage, or at leaſt to ſend a boat on ſhore. I hailed the Aſtrolabe, mentioned what I purpoſed doing, and added, that there was no occaſion for our obſerving any order in tacking, as we could make the creek of the Portugueſe eſtabliſhment our place of rendezvous at ſun-riſe. I told M. De Langle that it would then be proper for the ſhip the neareſt the ſhore to ſend a boat to enquire what ſupplies the iſland could afford us. In the morning of the 18th of October, the Aſtrolabe being only half a league from the land, M. De Langle diſpatched the pinnace, commanded by lieutenant De Vaujuas. M. De La Martinière and

and Father Receveur, an indefatigable naturaliſt, accompanied that officer. They landed at the head of the creek, between two rocks; but the ſurf was ſo high, that the boat and its crew would have periſhed inevitably but for the ſpeedy aſſiſtance given them by the Portugueſe. They landed the boat upon the beach, and ſaved every thing belonging to it except the grapnel. M. De Vaujuas counted about two hundred men at this poſt, of whom not more than fifteen were in uniform, the reſt being in their ſhirts. The commandant of this eſtabliſhment, which it would be improper to call a colony, ſince there is no ſuch thing as cultivation, told him that the governor of Rio Janeiro had ordered poſſeſſion to be taken of the Iſland of Trinidada about a year before. He either did not know, or affected not to know, that it had been previouſly occupied by the Engliſh. But no kind of dependance can be placed upon any thing that was ſaid to M. De Vaujuas in the courſe of this converſation, the commandant thinking himſelf under the lamentable neceſſity of diſguiſing the truth in every particular. He pretended that his garriſon conſiſted of four hundred men, and that his fort was defended by twenty guns; whereas we are certain that there was not a ſingle one mounted in the neighbourhood of the eſtabliſhment. This officer was ſo much afraid of expoſing the miſerable ſtate of his ſettlement,

that he would never permit M. De La Martinière, or Father Receveur, to leave the beach in ſearch of plants. After ſhewing M. De Vaujuas all the outward marks of kindneſs and civility, he adviſed him to return on board, telling him that the iſland could furniſh us with nothing; that proviſions were ſent every ſix months from Rio Janeiro; that there were hardly wood and water enough for his garriſon; and that it was neceſſary beſides to fetch both thoſe articles from a great diſtance among the mountains. His detachment aſſiſted in putting off the pinnace.

At day-break I alſo diſpatched a boat, commanded by lieutenant Boutin, who was accompanied by Meſſieurs De Lamanon and De Monneron; but I expreſsly forbade the former to land, if the Aſtrolabe's boat ſhould reach the ſhore before him: in that caſe, he was to ſound the road, and take the beſt plan he could in ſo ſhort a ſpace of time. M. Boutin, in conſequence, only approached within a muſquet-ſhot of the beach, the lead conſtantly indicating a rocky bottom, mixed with a little ſand. In the mean time, M. De Monneron made a drawing of the fort as well as if he had been on ſhore; and M. De Lamanon had an opportunity of obſerving that the rocks were compoſed of nothing but baſaltes *, and

* Baſaltes is a ſtone of a cloſe grain, ſhining when broken, ſtriking fire with ſteel, and proper for the purpoſe of a touch-ſtone. *(Fr. Ed.)*

melted

melted ſubſtances, the remains, without doubt, of ſome extinguiſhed volcano. This opinion was confirmed by Father Receveur, who brought on board a great number of ſtones, all of them volcanic, as well as the ſand, which was only mixed with fragments of ſhells and coral. According to the report of Meſſieurs De Vaujuas and Boutin, it was evident that the Iſland of Trinidada could not furniſh us with the wood and water of which we were in want. I therefore determined to ſteer immediately for the Iſland of St. Catherine, upon the coaſt of Brazil, the ancient refreſhing place of French ſhips in their voyages to the South Sea. Frezier and Admiral Anſon had there found ample means of ſupplying all their wants. It was in order that I might not loſe a ſingle day, that I gave the Iſland of St. Catherine a preference over Rio Janeiro, where different forms would have conſumed more time than was required for the completion of our wood and water. But in ſhaping my courſe for Saint Catherine's, I wiſhed to aſcertain the exiſtence of the Iſland of Aſcençaon, which M. Daprès lays down a hundred leagues weſt of Trinidada, and only 15′ farther ſouth. According to the journal of M. Poncel De La Haye, who commanded the Renommée frigate, I was convinced that ſeveral navigators, among others the enlightened Frezier, thought they had landed at Aſcençaon, when in reality they had only

only been at Trinidada. Notwithſtanding the authority of M. Poncel De La Haye, I thought that this point of geography wanted a new light to be thrown upon it. The two days that we paſſed off the ſouth ſide of Trinidada, enabled us to take bearings, from which M. Bernizet conſtructed a plan of that part of the iſland. It differs very little from that of Doctor Halley, which had been given to me by M. De Fleurieu. The view painted by M. Duché De Vancy is ſo true a repreſentation, that it will alone ſuffice to prevent the poſſibility of any navigator, who may make the ſouthern part of Trinidada, from being miſtaken. This iſland preſents nothing to the eye but a rock, almoſt entirely ſterile. A little verdure, and a few ſhrubs, are alone to be ſeen in the narrow paſſes between the mountains. It is in one of theſe vallies, ſituated in the ſouth-eaſt quarter of the iſland, and about three hundred toiſes wide, that the Portugueſe have formed their eſtabliſhment.

Nature certainly did not intend this rock to be inhabited, neither men nor animals being able to find a ſubſiſtence upon it; but the Portugueſe were afraid leſt ſome European nation ſhould avail themſelves of the vicinage, and carry on a contraband trade with the Braſils. It is doubtleſs to this motive that we ought to attribute their eagerneſs to

to occupy an iſland, which is a burthen to them in every other reſpect.

The ſouth latitude of the large iſlot of Martin Vas is 20° 30′ 35″.

The weſt longitude, by lunar obſervations, 30° 30′.

The ſouth latitude of the ſouth-eaſt point of the Iſland of Trinidada, 20° 31′.

The weſt longitude, by lunar obſervations, 30° 57′.

The 18th of October, at noon, I ſteered a weſt courſe for Aſcençaon till the 24th, in the evening, when I determined to abandon my ſearch after it. I had then run about a hundred and fifteen leagues to the weſtward, and the weather was clear enough to ſee ten leagues a-head. I can therefore affirm, that having run down the parallel of 20° 32′, with a view of at leaſt 20′ north and ſouth, and having brought to every night after the firſt ſixty leagues, as ſoon as I had paſſed through the ſpace perceived at ſun-ſet, I can affirm, I ſay, that the Iſland of Aſcençaon does not exiſt as far as about 7° of weſt longitude from the meridian of Trinidada, between the ſouth latitudes of 20° 10′ and 20° 50′, our view having extended over all that ſpace*.

On

* La Pérouſe may be in the right in aſſerting that navigators have fancied themſelves at Aſcençaon, when in fact they have

On the 25th of October we were overtaken by a moſt violent ſtorm. At eight o'clock in the evening

have only touched at Trinidada. Without paying any regard to the reſemblance between the deſcriptions they have given of theſe two iſlands, a proof exiſts in the falſe poſitions aſſigned to them in the French charts, which might eaſily induce an indiſcriminate belief of being on one or the other of them, their latitude being nearly the ſame, and the determination of their longitudes being then very defective; but theſe proofs do not ſuffice for the enlightened geographer, when the authentic teſtimony adduced by Daprès in his *Diſcourſe du Neptune Oriental*, page 10, and the particular and very different plans of theſe two iſlands, and of their aſpect given by Dalrymple, evidently prove that there is no identity between them.

If La Pérouſe had placed more confidence in the notes which were delivered to him, and which may be ſeen in this volume (No. 10 and 12) he might have made a very ſimple calculation.

The weſt longitude of the Iſle of Trinidada on the north-ſide is there determined at 30° 15′. He found by his own obſervations that the ſouth-eaſt point was only in 30° 57′.

The coaſt of America, in the parallel in queſtion, may, according to the longitude of Rio Janeiro, which is determined at 45° 5′, be taken at 43° 30′. Daprès fixes the longitude of the Iſland of Aſcençaon at 38°, as may be ſeen in the 12th note already quoted, becauſe he thinks is is about 120 leagues from the coaſt. I have reaſon to believe that it is nearer. Hence it is evident that La Pérouſe did not carry his ſearch far enough, and that, having run down *about ſeven degrees of latitude after taking his departure*

ing we were in the centre of a circle of fire. The lightening flashed from every point of the horizon; and the fire called *corposanto*, or jack with a lantern, settled upon the point of the conductor. The Astrolabe, which had no conductor, had also a *corposanto* at her mast-head*. From that day

*departure from Trinidada*, he gave it up when on the point of attaining his object.

In addition to the testimony of the two authors, whom I have just quoted, and whose accuracy entitles them to credit, I have to say that, since this note was written, chance has thrown a navigator* in my way, who has touched at both these islands, and who, being in want of instruments to determine their respective longitude with precision, only observed their latitudes as follow:

That of Trinidada - - - 20° 22′
That of Ascençaon - - - 20° 38′

*(Fr. Ed.)*

* I am not astonished that the fire called *corposanto* should also seat itself upon the mast-head of the Astrolabe, knowing as I do, by La Pérouse's account, that that ship was never out of hail of his.

A *corposanto* is nothing but the electric fire, or matter of thunder. Every body knows that when the electric fluid enters by a point, it shews itself in the shape of a small luminous spot; and that, on the contrary, when it comes out, it has the appearance of a fiery cone. The earth is the great reservoir of the electric fire, and water is one of its best conductors. I am of opinion then, that when a low cloud negatively *electrified* passes over a ship, the masts and yards must

* Lépine, *Enseigne de Vaisseau*.

day the weather was conſtantly bad till our arrival at the iſland of St. Catherine; a thicker fog enveloping

muſt ſerve as conductors, and that cones of fire in the direction of the cloud muſt be ſeen at all their extremities.

It is evident that a ſhip having a metallic conductor, that communicates immediately with the ſea, muſt have a finer ſtream of light at it's maſt-head than another which can only convey the electric fluid through wood paid with tar, which is a very bad conductor.

For the ſame reaſon a *corpoſante* may ſometimes be ſeen upon the ſurface of the ſea. Any one who wiſhes to be convinced of it, has only to make the following experiments, for the reſult of which I can vouch, having repeated them many and many a time in my ſtudy.

Electrify a quantity of water contained in a veſſel of glaſs, or of metal if you like it better, but in the latter caſe it muſt be inſulated; then approach your finger near enough to the ſurface of the water not to draw ſparks, but ſo that the water may riſe; and if you are in the dark, you will ſee a luminous cone come out of it, and direct itſelf towards your finger.

In this experiment the finger produces the effect of a cloud. But it may be ſaid, perhaps, that the ſea does not contain, like the water, a ſuperabundance of electric matter. Should this argument leave any doubt on the ſubject, the following experiment may be made:

Take a metal baſon full of water. Let this baſon communicate with the earth by a chain, or any other conductor. Then electrify ſtrongly the outſide of a coated jar, by which means the inſide will be negatively electrified. Inſulate the jar that you may be able to take hold of the outſide without diſcharging

veloping us than we could have expected to meet with on the coaſt of Brittany in the midſt of winter. We anchored on the 6th of November between St. Catherine's and the main, in ſeven fathoms water, over a bottom of muddy ſand;

The middle of the iſland of Alvaredo bearing north-eaſt;

The iſlands of Flamands, ſouth by eaſt, and

The iſle of Gal, north.

After a navigation of ninety-ſix days we had not a ſingle perſon ſick on board. Neither the change of climate, nor rain, nor fogs, had

diſcharging it; then hold the metallic ball at the top of the jar, at a certain diſtance from the ſurface of the water, as you before held your finger, and you will produce the ſame effect.

It is eaſy to perceive that the latter experiment is the moſt demonſtrative. Like the ſea, the water is not electrified; but communicates in like manner with the earth, while the bottom of the jar, which repreſents the cloud, is negatively electrified, as the cloud is ſuppoſed to be.

If, in the firſt experiment, you uſe the ball of the jar negatively electrified, you will obtain a more pointed reſult, becauſe the electric fluid will make a greater effort to get from the water, which is poſitively electrified, to the jar which is in the contrary predicament.

This principle being once laid down, and demonſtrated, ſerves to develope the theory of aſcending thunder, a phenomenon much more common than is generally imagined; but this digreſſion, which is foreign to my ſubject, would lead me too far. *(Fr. Ed.)*

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impaired the health of our crews; but it is true that our provisions were of an excellent quality, and that I had neglected none of the precautions that prudence or experience could suggest. We also took the greatest care to keep up the spirits of the ships companies by making them dance every evening, when the weather permitted, from eight o'clock till ten.

## CHAPTER II.

*Description of the Island of St. Catherine—Observations and events during our stay—Departure from St. Catherine's—Arrival at Conception.*

THE Island of St. Catherine extends from 27° 19′ 10″ to 27° 49′ south latitude. Its breadth from east to west is only two leagues; and it is only separated from the main by a channel two hundred toises over in the narrowest part. It is on the point that forms this narrow passage that is situated the city of Nostra-Senora del Destero, the capital of the government, and the place of residence of the governor. It contains at most three thousand souls, and about four hundred houses. Its appearance is exceedingly pleasant. According to Frezier's account, this island served, in 1712, as a retreat to vagabonds,

View in the Island of St. Catherine

bonds, who made their eſcape from different parts of the Brazils; who were only nominal ſubjects of Portugal, and who acknowledged no authority whatever. The country is ſo fertile that they were able to ſubſiſt without any ſuccour from the neighbouring colonies: and they were ſo deſtitude of money, that they could neither tempt the cupidity of the governor-general of the Brazils, nor inſpire him with any deſire of ſubduing them. The ſhips that touched at the iſland gave them in exchange for their proviſions nothing but clothes and ſhirts, of which they were in the utmoſt want. It was not till about 1740, that the Court of Liſbon eſtabliſhed a regular government in the iſland of St. Catherine, and the parts of the continent adjacent. This government extends ſixty leagues north and ſouth from the river San Franciſco to Rio Grande; its population being about twenty thouſand ſouls; but I ſaw ſo great a number of children in the different families that I think it will ſoon be much more conſiderable. The ſoil is exceedingly fertile, and produces all ſorts of fruit, vegetables, and corn, almoſt ſpontaneouſly. It is covered with trees of everlaſting green, but they are ſo interwoven with briars and creeping plants, that it is impoſſible to get through the foreſts otherwiſe than by opening a path with a hatchet. Danger is beſides to be apprehended from ſnakes whoſe bite is mortal. The

habitations, both on the iſland and continent, are all cloſe to the ſea-ſide. The woods that ſurround them are delightfully fragrant, owing to the great number of orange trees, and other odoriferous trees and ſhrubs that they contain. But, notwithſtanding all theſe advantages, the country is very poor, and totally deſtitute of manufactured commodities, ſo that the peaſants are almoſt naked, or elſe covered with rags. Their ſoil, which is very fit for the cultivation of ſugar, remains unproductive for the want of ſlaves, whom they are not rich enough to purchaſe. The whale fiſhery is very ſucceſsful; but it is the property of the crown, and is farmed by a company at Liſbon, which has three conſiderable eſtabliſhments upon the coaſt. Every year they kill about four hundred whales, the produce of which, as well oil as ſpermaceti, is ſent to Liſbon by the way of Rio-Janeiro. The inhabitants are idle ſpectators of this fiſhery, from which they derive not the ſmalleſt advantage. If the government does not come forward to their aſſiſtance, and grant them ſuch franchiſes and immunities as may invite commerce to their ſhores, one of the fineſt countries in the univerſe will remain everlaſtingly miſerable, and will be utterly uſeleſs to the mother country.

It is very eaſy to make St. Catherines. A muddy bottom is found in ſeventy fathoms water at

at eighteen leagues diſtance in the offing, the water gradually ſhoaling till within four cables length of the land, where there is ſtill four fathoms.

The uſual paſſage is between the Iſland of Alvaredo and the north point of St. Catherine's Iſland. There is alſo a paſſage between the Iſle of Gal, and the Iſland of Alvaredo; but with this it is neceſſary to be well acquainted: Our boats were ſo occupied during our ſtay that I had no opportunity of ſounding it. The beſt anchorage is at half a league from Fort Iſland *(L'iſle de la Forteresſe)* in ſix fathoms, muddy bottom, the citadel bearing ſouth 3° weſt, and the fort, on the great point, ſouth 60° eaſt. A ſhip lies here in the midſt of ſeveral watering places, both on the iſland and continent, and may chuſe the creek which, according to the wind, is the moſt eaſy of acceſs. This conſideration is of great importance; for the navigation of long boats is very difficult in the channel, which is two leagues wide as far as the narrow paſſage abreaſt of the city. The ſea is very heavy and always breaks on the lee-ſhore. The tides are very irregular; the flood coming in by the two channels, north and ſouth, as far as the narrow paſſage juſt mentioned. It only riſes three feet.

It appeared to me that our arrival ſpread great terror through the country. The different forts

fired ſeveral alarm guns, which induced me to anchor earlier than I ſhould otherwiſe have done, and to ſend a boat on ſhore with an officer, to make known our pacific intentions, and our want of wood, water, and freſh proviſions. M. De Pierrevert, whom I charged with this negociation, found the little garriſon of the citadel all under arms. It conſiſted of forty men, commanded by a captain, who immediately ſent off an expreſs to the city, where the governor Don Franciſco Di Baros, brigadier of infantry, reſided. He had been informed of our expedition by means of the Liſbon Gazette; and a bronze medal I ſent him, left him no doubt concerning the object of our viſit. The moſt ſpeedy and poſitive orders were given to ſell us whatever we ſtood in need of, at the loweſt price; an officer was appointed to attend on each frigate; he was entirely at our command; and we ſent him with the purſer's ſteward to buy proviſions of the inhabitants. On the 9th of November I hauled in towards the fortreſs, from which I was lying at ſome diſtance; and on the ſame day I went aſhore with M. De Langle, and ſeveral officers, to pay my reſpects to the commandant of that poſt, who ſaluted me with fifteen guns. An equal number was returned from my ſhip. The next day I ſent my boat, commanded by lieutenant Boutin, to the town of Noſtra-Senora del Deſtero, to return my thanks to the governor for

the great abundance which, owing to his cares, we enjoyed. Meſſieurs De Monneron, De Lamanon, and the abbe Monges accompanied that officer, as well as M. De La Borde Marchainville and Father Receveur, ſent for the ſame purpoſe by M. De Langle. They were all received in the moſt polite and cordial manner. Don Franciſco De Baros, governor of the diſtrict, ſpoke French perfectly well, and his extenſive information inſpired the greateſt confidence. He invited all the French to dinner, during which he told them that the iſland of Aſcençaon did not exiſt; that however, upon the credit of M. Daprès, the governor-general of the Braſils had the year before diſpatched a veſſel to examine all the poſitions formerly aſſigned to that iſland; and that the captain having ſeen no land, it had been expunged from the charts, in order that an ancient error might not be perpetuated *. He added, that the Iſland of Trinidada,

* It would be dangerous to the progreſs of navigation, and fatal to navigators, to adopt the method of expunging iſlands formerly diſcovered from the charts, under the pretence of their having been ſought for in vain, or of their poſition being at any rate uncertain, in conſequence of the want of means to lay them down with preciſion upon the charts, at the time of their diſcovery.

I have the greater right to expreſs my diſapprobation of ſuch a method, as, a few pages back, I have proved that Aſcençaon really exiſts, and that thoſe who ſhould expunge

Trinidada had always made part of the Portugueſe poſſeſſions; and that the Engliſh had evacuated it upon the firſt requeſt made to them by the Queen of Portugal; the King of England's miniſter having moreover made anſwer that the nation had never given its ſanction to the ſettlement, which was only an adventure of private individuals. The following day, at eleven o'clock, the boats of the Bouſſole and Aſtrolabe returned, and announced a ſpeedy viſit from Don Antonio Di Gama, major general of the colony. He did not come, however, till the 13th, when he brought me a moſt obliging letter from his commanding officer. The ſeaſon was ſo far advanced, that I had not a moment to loſe; and our crews enjoyed a moſt excellent ſtate of health. I had therefore flattered myſelf, on our arrival, that I ſhould be able to provide for all our wants, and to ſail again in five or ſix days; but the ſoutherly winds and the currents were ſo ſtrong, that our communication with the land was frequently interrupted. This neceſſarily delayed my departure.

an iſland from the globe, would be in a manner reſponſible for the riſks to which navigators who might fall in with it would be expoſed by the falſe ſecurity inſpired by the charts; while its being laid down, even in an uncertain manner, by keeping alive the attention of mariners, may render the finding of it again a matter of greater facility. *(Fr. Ed.)*

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I had given the preference to the Iſland of St. Catherine, over Rio Janeiro, merely to avoid the forms to be gone through in great cities, which always occaſion a loſs of time; but experience taught me that it combined a variety of other advantages. Proviſions of all kinds were in the greateſt abundance: a large ox coſt eight dollars. A hog of a hundred and fifty pounds weight, four; two turkies were to be had for a dollar; it was only neceſſary to caſt the net, in order to haul it up again full of fiſh; five hundred oranges were brought on board, and ſold to us for leſs than half a dollar; and vegetables were alſo at a very moderate price. The following fact will give an idea of the hoſpitality of theſe good people: One of my boats having been overſet by the ſurf in a creek where I was cutting wood, the inhabitants who aſſiſted in ſaving it, forced our half-drowned ſailors to ſleep in their beds, and paſſed the night themſelves upon mats ſpread on the ground in the ſame room in which they exerciſed this noble hoſpitality. A few days afterwards they brought on board the Bouſſole the maſts, grapnel, and colours of the boat, articles highly valuable to them, and which would have been of the greateſt uſe in their canoes. Their manners are mild; they are kind, polite, and obliging; but ſuperſtitious, and jealous of their wives, who never appear in public.

Our officers went in purſuit of game, and killed ſeveral birds of the moſt beautifully variegated plumage; among others, a *rollier*, of a very fine blue colour, which Buffon has not deſcribed, though in this country it is very common.

Not having foreſeen the obſtacles that detained us twelve days in this road, we did not ſend our aſtronomical clocks on ſhore, thinking that we ſhould only paſs five or ſix days at anchor. We had, however, little reaſon for regret, as the ſky was conſtantly cloudy. The longitude of the iſland was conſequently determined by diſtances from the ſun to the moon. According to our obſervations, the moſt northerly point of the iſland of St. Catherine may be fixed at 49° 49′ weſt longitude, and 27° 19′ ſouth latitude.

On the evening of the 16th, every thing being embarked, I ſent my packets to the governor, who had kindly undertaken to convey them to Liſbon, where I addreſſed them to M. De Saint-Marc, our conſul-general. Every one had permiſſion to write to his family and friends. We flattered ourſelves with hopes of ſailing the following day; but the northerly winds, which would have been ſo favourable to us in the open ſea, kept us at the bottom of the bay till the 19th of November, when I got under way at day-break. The calm, however, forcing me to anchor for a few hours,

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we did not get clear of all the iſlands till night was coming on.

We had bought at St. Catherine's a ſufficiency of oxen, hogs, and poultry, to feed the ſhip's company at ſea for more than a month; and we had added orange and lemon trees to our collection of other trees, which, ſince our departure from Breſt, had been preſerved in a thriving ſtate in boxes, made under the direction of M. Thouin. Our gardener was alſo provided with kernels of oranges and lemons, and with ſeed of the cotton ſhrub, of Indian corn, and, generally ſpeaking, of all the vegetables which, according to the report of navigators, the inhabitants of the iſlands in the South Sea were in want of, and which are more analogous to their climate and manner of living, than the productions of the French kitchen garden. Of the latter, however, we alſo carried out an immenſe quantity of ſeed.

The day of our departure, I gave the Aſtrolabe new ſignals, which were much more extenſive than thoſe we had made uſe of heretofore. We were about to navigate in the midſt of fogs, and in tempeſtuous ſeas; and theſe circumſtances required new precautions. I agreed alſo with M. De Langle, that in caſe of ſeparation, our firſt rendezvous ſhould be the harbour of Good Succeſs in Lemaire's Straits, ſuppoſing we ſhould not have paſſed its latitude on the firſt of January; and

and the ſecond, Point Venus, in the iſland of Otaheite. I informed him alſo, that I ſhould confine my reſearches in the Atlantic Ocean to *Iſle Grande de la Roche*, not having time to ſeek a paſſage to the ſouthward of Sandwich Land. I now felt much regret at not being able to begin my expedition by the eaſt; but I did not dare to change ſo entirely the plan that had been adopted in France, becauſe I ſhould not have been overtaken by the official letters which had been announced to me, and which might contain the moſt important orders.

The weather was very fine till the 28th, when we had a violent gale of wind from the eaſtward. It was the firſt ſince our departure from France. I was pleaſed to ſee, that although our ſhips were very indifferent ſailers, they ſtood the bad weather exceedingly well, and were capable of reſiſting the heavy ſeas with which we ſhould have to contend. We were then in 35° 24′ ſouth latitude, and 43° 40′ weſt longitude; and I was ſteering eaſt-ſouth-eaſt, becauſe I intended, in my ſearch after *Iſle Grande*, to run into its latitude at about 10° to the eaſtward of the poſition aſſigned to it in the different charts. I was well aware of the great difficulty of getting back again; but, in any caſe, I was under the neceſſity of making a great deal of weſting, in order to arrive at Lemaire's Straits; and all the way I ſhould advance upon that point

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of the compaſs, while running down the latitude of *Iſle Grande*, would bring me ſo much nearer to the coaſt of Patagonia, where I was under the neceſſity of getting ſoundings before I could double Cape Horn. I thought alſo that the latitude of *Iſle Grande* not being perfectly determined, it was more probable that I ſhould meet with it by plying to windward, between 44 and 45° of latitude, than if I followed a ſtraight line in 44° 30′, as I might have done by running from weſt to eaſt, the weſterly winds being as conſtant in theſe ſeas, as the eaſterly breezes are between the tropics.

It will ſoon be ſeen that I derived no advantage from my calculations, and that after a fruitleſs ſearch of forty days, during which I met with five gales of wind, I was obliged to give it up, and proceed on my voyage.

On the 7th of December I was in the ſuppoſed parallel of *Iſle Grande*, in 44° 38′ ſouth latitude, and 34° weſt longitude, according to lunar obſervations taken the day before. We ſaw ſea-weed paſs the ſhip, and during ſeveral days were ſurrounded with birds, but they were of the albatroſs and petrel ſpecies, which never approach the land, unleſs in the breeding ſeaſon.

Theſe weak indications of land ſerved, however, to keep alive our hopes, and conſoled us for the terribly mountainous ſea in which we were navigating; but it was not without anxiety that I re-

flected I had ſtill 35° of weſting to make before I reached Lemaire's Straits, where it was of importance that I ſhould arrive before the end of January.

I kept ſtanding upon different tacks between the 44th and 45th deg. of latitude till the 24th of December, running down 15° of longitude in that parallel; and on the 27th I gave up the ſearch, well convinced that *Iſle Grande de la Roche* did not exiſt *, and that the ſea-weeds and petrels did not prove the vicinity of land, ſince I met with birds and marine plants till my arrival on the coaſt of Patagonia. The chart on which the ſhip's place on each day is ſet off, will ſerve to ſhew the courſe I ſteered better than the details above given. I am convinced that the navigators who may ſail hereafter in queſt of the ſame iſland, will not be more fortunate than myſelf; but they ought only to undertake it when ſailing eaſt towards the Indian ocean. It is in that caſe no more difficult or

* If *Iſle Grande de la Roche* had been laid down on the charts in a leſs conjectural manner, La Pérouſe, after running down the parallel aſſigned to it, might have ſafely affirmed that it did not exiſt; but as its poſition has been ſo vaguely determined, according to the journals of Antoine De La Roche, and Americus Veſpucius, the ſearch made by La Pérouſe only proves that it does not exiſt in the poſition aſſigned to it. As to the reſt, I have nothing to add to the diſcuſſion contained in the nineteenth geographical note inſerted in the firſt volume. (*Fr. Ed.*)

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tedious to run down 30° in that parallel than in any other; and if no land be found, the ſhip will at leaſt be ſo much farther on its way. I am fully perſuaded that *Iſle Grande*, like Pepys Iſland, is the creation of fancy *; the account of La Roche, who pretends to have ſeen lofty trees upon it, being entirely deſtitute of foundation. It is very certain, that in 45°, nothing but ſhrubs can be found upon an iſland ſeated in the midſt of the Southern Ocean, ſince not a ſingle tree is met with upon the Iſlands of Triſtan d'Acunha, ſituated in a latitude infinitely more favourable to vegetation.

On the 25th of December the wind ſettled at ſouth-weſt, and continued to blow for ſeveral days, compelling me to ſteer weſt-north-weſt, and to depart from the parallel I had been conſtantly following for twenty days. Having then paſſed the uttermoſt point aſſigned to *Iſle Grande*

* I know that New Georgia indicated in La Roche's journal has been again found; but I am much in doubt whether the honour of that diſcovery ought to be aſſigned to him.—According to his journal, there is a channel ten leagues wide between Bird's Iſland and Georgia, whereas the channel is in reality only one league wide. This is a miſtake rather too great for a ſeaman of the leaſt experience to make, if ſpeaking of one and the ſame place. It is, however, from the former land that you muſt reckon, in order to lay down Iſle Grande between 43 and 44° of longitude. I croſſed all the meridians from 35 to 50°, without diſcovering it.

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in all the charts, and the ſeaſon being very far advanced, I determined in future to ſteer the courſe that would give me the moſt weſting, fearing much leſt I ſhould find myſelf obliged to double Cape Horn in the bad ſeaſon of the year. But the weather was more favourable than I could venture to hope. The gales of wind ceaſed with the month of December, and January was nearly as fine as July is upon the coaſts of Europe. The only winds we had were from north-weſt to ſouth-weſt, but we could carry all our ſails, and the various breezes were ſo completely indicated by the appearance of the ſky, that we were certain of the moment when the wind would change, and were conſequently always prepared to ſtand upon the moſt advantageous tack. As ſoon as the horizon grew miſty, and clouds began to cover the ſky, the wind veered from ſouth-weſt to weſt. Two hours after it was ſure to be at north-weſt. On the contrary, when the foggy weather cleared up, we were certain that the wind would ſpeedily back again to weſt and ſouth-weſt. I do not believe that in ſixty-ſix days navigation, the wind blew from the eaſtward more than eighteen hours.

We had ſeveral days of calm weather, and ſmooth water, during which the officers of the two ſhips went on ſhooting parties, and killed a conſiderable number of birds, with which we were

were almoſt conſtantly ſurrounded. Their ſport, which was very generally productive, procured us a ſupply of freſh meat for our crews, and more than once it happened to us to kill enough to ſerve out to the whole ſhips company. The ſailors preferred it to ſalt meat, and I am of opinion that it contributed infinitely more to keep them in a good ſtate of health.

In our excurſions we killed nothing but albatroſſes of the great and ſmall ſpecies, with four varieties of the petrel. Theſe birds when ſkinned, and dreſſed in a ſavoury way, were nearly as good as the wild ducks eaten in Europe. They have been ſo well deſcribed by the naturaliſts who accompanied captain Cook, that I only think it neceſſary to give a drawing of them, that ornithologiſts may be convinced that we met with the very ſpecies, of which Meſſieurs Banks, Solander, and Foſter have given deſcriptions highly ſatisfactory.

On the 14th January we at laſt ſtruck ground on the coaſt of Patagonia, in 47° 50′ ſouth latitude, and 64° 37′ weſt longitude, according to our laſt lunar obſervations. We never neglected any opportunity of making them when the weather was favourable. The officers of the ſhip were ſo well verſed in them, and ſeconded M. Dagelet ſo well, that I do not think our greateſt error

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in longitude can be eſtimated at more than half a degree.

On the 21ſt, we got ſight of Cape Fair Weather, or of the north point of Gallegos River, on the coaſt of Patagonia. We were about three leagues from the land, in forty one fathom water, over a bottom of ſmall gravel, or little argillaceous ſtones of the ſize of peas. Our longitude, obſe ved at noon, being compared with the chart of *Cook's ſecond voyage*, only differed by 15′ which we were farther to the eaſtward.

On the 22d, at noon, we ſet the Cape of the Virgins, bearing weſt, four leagues diſtant. This land is low, with ſcarcely any verdure. The view given of it, by the editor of *admiral Anſon's voyage*, appeared to me to be very exact, and its poſition is accurately determined in the chart of *Cook's ſecond voyage*.

As far as the Cape of the Virgins, the lead conſtantly brought up mud, or elſe the ſmall pebbles mixed with mud, which are found in the direction of the mouths of rivers: but when we came to Tierra del Fuego, we had almoſt always a rocky bottom, and only from twenty four to thirty fathoms water, although at three leagues diſtance from the land, which induces me to think that this coaſt is not ſo ſafe as that of Patagonia.

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The latitudes and longitudes of the different capes are determined with the greateſt preciſion by captain Cook's chart.

The direction of the coaſt between theſe capes has been laid down from bearings accurately taken; but it has not been poſſible to attend much to thoſe details in which the ſafety of navigation conſiſts. Captain Cook, and all other navigators, can only anſwer for their own routes, and the ſoundings they have taken. It is very poſſible that when the water was ſmooth, they may have paſſed cloſe to ſhoals and rocks upon which there were no breakers. This navigation conſequently requires much greater caution than that of the continent of Europe.

I have entered into theſe details, in order to ſhew the degree of confidence that may be placed in charts of this kind, the moſt perfect, no doubt, that have been conſtructed while running rapidly over an immenſe ſpace. It was impoſſible for navigators in former times, when lunar obſervations were not in uſe, to approach their accuracy. It is ſuch, that I as firmly believe in the points we have examined, being laid down within twenty miles of the truth, as I do in the exact poſition of the obſervatories of Greenwich and Paris.

On the 25th, at two o'clock, I took bearings a league to the ſouthward of Cape San Diego, which forms the weſt point of the Straits of Lemaire.

I had ranged along the land ſince the morning at that diſtance, and had followed, upon captain Cook's chart, the bay where Mr. Banks went on ſhore in ſearch of plants, while the Reſolution waited for him under ſail.

The weather was ſo favourable, that it was impoſſible for me to grant the ſame indulgence to our naturaliſts. At three o'clock, I entered the ſtraits, having doubled, at the diſtance of $\frac{1}{4}$ of a league, Point San Diego, where there are breakers, which do not, I believe, extend more than a mile; but having perceived others much farther in the offing, I ſteered to the ſouth-eaſt in order to avoid them. I ſoon perceived, however, that they were occaſioned by currents, and that the reefs of Cape San Diego were a great way off.

As it blew a freſh breeze from the north, I could venture to approach Tierra del Fuego, and ranged along it within leſs than half a league of the land. I found the wind ſo fair, and the ſeaſon ſo far advanced, that I immediately determined to give up my intention of putting in at the harbour of Good Succeſs, and to ſtand on, without loſing a moment, to double Cape Horn. I conſidered that it would be impoſſible to provide every thing I wanted without ſtaying ten or twelve days; the ſpace of time I had found at St. Catherine's to be rigorouſly neceſſary, becauſe in thoſe open bays, where the ſea breaks with fury upon the beach,

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one half of the days are ſuch, that a boat cannot go aſhore. If this inconvenience had been accompanied by a ſoutherly wind, which ſhould have detained me for ſome time in the harbour of Good Succeſs, the favourable ſeaſon would have elapſed, and I ſhould have expoſed my ſhip to damage, and my crew to hardſhips and fatigue, very prejudicial to the ſucceſs of my voyage.

Theſe conſiderations induced me to ſteer for the iſland of Juan Fernandez, where I was ſure of finding wood and water, with refreſhments far ſuperior to the Penguins of the Straits. I had not at that time a ſingle perſon ſick; I had ſtill eighty barrels of water, and Tierra del Fuego has been ſo often viſited and deſcribed, that I could not hope to add any thing intereſting to what has already been ſaid upon the ſubject.

During our run through the Straits of Lemaire, the ſavages, according to cuſtom, made great fires, to induce us to anchor. There was one upon the north point of the bay of Good Succeſs, and another upon the north point of Valentine's Bay. I am perſuaded, with captain Cook, that ſhips may anchor indiſcriminately in any of thoſe bays, where both wood and water are to be had, though there is certainly leſs game than at Chriſtmas Harbour, on account of the ſavages inhabiting them during a part of the year.

During our navigation in the ſtrait, at half a league diſtance from Tierra del Fuego, we were ſurrounded by whales: it was eaſy to ſee that they had never been moleſted. They took no alarm at our ſhips, ſwam majeſtically along within piſtol-ſhot of us; and will, no doubt, remain ſovereigns of theſe ſeas, till the fiſhermen go to make war upon them as at Spitzbergen or Greenland. I doubt whether there be a better place in the world for the whale-fiſhery. The ſhips might lie at anchor in good bays, within reach of water, wood, antiſcorbutic herbs, and ſea fowl, while their boats without going a league, might kill as many whales as would make them a complete cargo. The only inconvenience would be the length of the voyage, which would require near five months for each run; and I ſhould imagine that theſe latitudes can only be frequented in the months of December, January and February.

We were not able to make any obſervations on the currents in the ſtraits which we entered at three o'clock in the afternoon, the moon being twenty-four days old. We were drifted rapidly to the ſouthward till five, when the tide turned; but as we had a ſtrong northerly breeze we ſtemmed it with eaſe.

The horizon was ſo miſty in the eaſtern quarter, that we did not perceive Staten Land, from which however we were leſs than five leagues diſtant, ſince

ſince that is the whole width of the ſtraits. We kept Tierra del Fuego cloſe enough aboard to perceive, by the help of our glaſſes, the ſavages ſtirring up great fires, which is the only way they have to expreſs their deſire of ſeeing ſhips come to an anchor.

Another motive more powerful ſtill, had induced me to give up my idea of touching at the bay of Good Succeſs. I had long been deviſing a new plan for my voyage, concerning which, however, I could come to no deciſion, till after having doubled Cape Horn.

This plan was to repair, during the preſent year, to the north-weſt coaſt of America. I knew well, that if I had not received orders to do ſo, it was for fear I ſhould not have time to make ſo long a run during the winter; for this project united an infinite number of advantages. The firſt was the taking of a new track, and croſſing parallels in which it was poſſible to meet with undiſcovered iſlands: the ſecond was the viſiting more expeditiouſly of all the places pointed out to me, by employing two years in the northern, and two in the ſouthern hemiſphere. As my inſtructions expreſsly ſaid that I was at liberty to execute the King's orders in the manner that might appear to me moſt likely to inſure the ſucceſs of the voyage, I only delayed the entire adoption of my new

plan, 'till I knew at what time I ſhould get into the South Sea.

I doubled Cape Horn with much greater eaſe than I had dared to hope; and I am now convinced that this navigation is like that of all high latitudes. The difficulties we expect to meet with, are the effect of an ancient prejudice which will in time be laid aſide, and which the reading of *admiral Anſon's Voyage* has not a little contributed to keep alive in the minds of ſeamen.

On the 9th of February I was abreaſt of the Straits of Magellan in the South Sea, and ſteering for the iſland of Juan Fernandez. I had paſſed, according to my reckoning, over the pretended land of Drake; but I had loſt little time in ſearch of it, becauſe I was convinced that it did not exiſt. Since my departure from Europe, all my thoughts had been directed to the tracks of ancient navigators. Their journals are ſo badly digeſted, that it is neceſſary in a manner to gueſs at their meaning; and geographers, who are not ſeamen, are in general ſo ignorant of hydrography, that they have been unable to throw the light of ſound criticiſm upon journals which ſtand ſo much in need of it. They have conſequently drawn the figures of iſlands, which do not exiſt, or which, like phantoms, vaniſh at the approach of modern navigators.

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In 1758, admiral Drake, five days after he had ſailed out of the Straits of Magellan, was aſſailed in the Great Weſtern Ocean by violent gales of wind which laſted near a month. It is difficult to follow him in his different courſes; but at length he got ſight of an iſland in 57 degrees of ſouth latitude. He put in there, and ſaw a great number of birds. Running afterwards twenty leagues to the northward, he fell in with other iſlands inhabited by ſavages, who were in poſſeſſion of canoes. Theſe iſlands produced wood, and antiſcorbutic plants. How is it poſſible in reading this relation not to recognize Tierra del Fuego, and, probably, the Iſland of Diego Ramirez, ſituated nearly in the ſame latitude as the ſuppoſed Iſland of Drake? At that time Tierra del Fuego was not known. Lemaire and Schouten did not diſcover the ſtraits that bear their name, till 1616; and being perſuaded, that, in the ſouthern, as well in the northern hemiſphere, there was land extending to the vicinity of the pole, they thought that the ſouth part of America was interſected by channels; and that they had found a ſecond, like that of Magellan. Theſe falſe ideas were very well calculated to lead admiral Drake into error, eſpecially as he was drifted by currents, 15 or 16° to the eaſtward of his reckoning; as has happened ſince in the ſame ſeas to a hundred other

navigators. This probability becomes a certainty, when we reflect that a ship of this squadron, which made a stretch to the northward, while the admiral was making one to the southward, returned into the Straits of Magellan, out of which she had just sailed; an evident proof that she had made little way to the westward; and that admiral Drake had not got beyond the longitude of America. In addition to this, it may be said, that it is contrary to all probability, that an island remote from the continent, and in 57° latitude, should be covered with trees, while not a single ligneous plant is to be found upon Falkland's Islands, which are only in 53°; and, although there is not an inhabitant upon those islands, nor even upon Staten Land, which is separated from the continent by a channel of no more than five leagues wide. Besides the description that Drake gives of the savages, canoes, trees and plants, agrees so perfectly with the Pecherees, and generally speaking with every thing else we know about Tierra del Fuego, that I am at a loss to conceive how Drake's Island can still exist upon the charts.

The west-south-west wind favouring my intention of running to the northward, I determined not to lose moments so valuable in this fruitless research; and continued my route towards the Island of Juan Fernandez. But having

examined the quantity of proviſions I had on board, I found that we had very little flour and bread left, becauſe I had been obliged as well as M. De Langle, to leave a hundred barrels at Breſt, for want of room to ſtow it away. The worms had beſides got into the biſcuit; and though they had not rendered it unfit to eat, had conſumed about one fifth of the quantity. Theſe ſeveral conſiderations made me give Conception a preference over the Iſland of Juan Fernandez. I knew that this part of Chili abounded in corn; that it was cheaper there than in many parts of Europe; and that I ſhould find all other eatables in plenty, and at a moderate price. I conſequently altered my courſe a little to the eaſtward.

On the 22d, in the evening, I got ſight of the Iſland of Mocha, which lies about 50 leagues ſouth of Conception. The fear of being drifted to the northward by currents, had made me haul in for the land; but I think that it is a uſeleſs precaution, and that it is ſufficient to ſtand into the latitude of the Iſland of Santa Maria, which it is adviſeable to make, taking care not to approach nearer than within three leagues, becauſe there are ſunken rocks, which lie a great way out from its north-weſt point.

When that point is doubled, a ſhip may range along the land, all the dangers being then above water, and at a ſmall diſtance from the ſhore.

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At the ſame time the paps of Biobio heave in ſight. Theſe are two mountains of ſmall elevation, of which the name indicates the form. It is neceſſary to ſteer a little to the northward of the paps, towards Talcaguana Point, which forms the weſtern entrance of the Bay of Conception. This bay is about three leagues wide, from eaſt to weſt, and the ſame depth from north to ſouth; but the entrance juſt mentioned, is confined by the Iſland of Quiquirina, ſituated in the middle, and forming two channels, of which the eaſtern is the ſafeſt, and the only one in uſe. It is about a league wide. The weſtern one between the Iſland of Quiquirina, and Talcaguana Point, is hardly more than a quarter of a league in width; is full of rocks, and is only to be attempted with a good pilot.

Bottom is found upon the coaſt from the Iſland of Santa Maria, to the entrance of the Bay of Conception. At three leagues in the offing, we had ſeventy fathoms water, over a bottom of black mud, and thirty, when we were ſhut in with the bay eaſt and weſt. From the north point of the Iſland of Quiquirina, the water keeps ſhoaling to ſeven fathoms, within two muſket-ſhots from the land. There is excellent anchorage all over the bay, but ſhips are only ſheltered from northerly winds when lying abreaſt of the village of Talcaguana

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At two o'clock in the afternoon we doubled the point of the Iſland of Quiquirina; but the ſoutherly winds, which till then had been ſo favourable to us, being now contrary, we were obliged to ſtand on different tacks, taking care to keep the lead conſtantly going. We endeavoured with our glaſſes to find the city of Conception, which, according to Frezier's plan, ought to have been at the bottom of the bay, in the ſouth-eaſt quarter; but nothing could we ſee. At five in the evening, pilots came on board, who told us that the city had been ruined by an earthquake in 1751, that it no longer exiſted, and that a new one had been built at three leagues diſtance from the ſea, upon the banks of the River Biobio. We were told alſo by theſe pilots, that we were expected at Conception; and that the letters of the Spaniſh miniſter had preceded us thither. We continued to ply to windward, in order to reach the bottom of the bay; and at nine in the evening anchored in nine fathoms water, at about a league from the anchorage of Talcaguana, which we were to take up the following day. About ten, M. Poſtego, a captain of a frigate in the Spaniſh navy, came to viſit me on the part of the commandant of Conception. He ſlept on board, and ſet off at break of day, in order to give an account of his miſſion. He pointed out previouſly the moſt convenient

convenient place for us to anchor in; and before he mounted his horſe, ſent on board a greater quantity of freſh meat, fruit, and vegetables, than was ſufficient for the whole crew, whoſe good ſtate of health appeared to ſurprize him. Never, perhaps, had any veſſel doubled Cape Horn, and arrived at Chili without having ſick on board; and in our two ſhips there was not a ſingle man indiſpoſed.

At ſeven in the morning we got under way with all our boats towing us a-head; and anchored in the creek of Talcaguana, at eleven o'clock, on the 24th of February, in ſeven fathoms water, over a bottom of black mud, the middle of the village of Talcaguana bearing ſouth, 21° weſt;

Fort St. Auguſtine ſouth, and

Fort Galvez, near our watering place, north-weſt, 3° weſt.

From our firſt arrival upon the Coaſt of Chili, we had taken lunar obſervations every day, and found that our longitudes differed very little from thoſe aſſigned to it by Don George Juan; but as we have reaſon to think the preſent method far ſuperior to that which was in uſe in 1744, we ſhall place the north point of the Iſland of Santa Maria, in 37° 1′ ſouth latitude, and 75° 55′ 45″ weſt longitude; the middle of the village of Talcaguana, in latitude 36°, 42′ 21″, and lon-

longitude 75° 20′, according to the obſervations made by M. Dagelet in our aſtronomical tents pitched cloſe to the ſea-ſide. The plan of Don George Juan is drawn with ſo much exactneſs, that our operations have only ſerved to aſcertain its truth; but M. Bernizet, geographical engineer, added to it a part of the courſe of the River of Biobio, in order to ſhow the ſpot on which the new city is built, and the road leading to it. (Atlas.)

## CHAPTER III.

*Deſcription of Conception—Manners and cuſtoms of the inhabitants—Departure from Talcaguana—Arrival at Eaſter Iſland.*

THE Bay of Conception is one of the moſt commodious harbours to be found in any part of the world. The water is ſmooth, and there is ſcarcely any current, although the tide riſes ſix feet three inches, the flood being at its height, at the full and change of the moon, at 45 minutes after one o'clock. The bay is ſheltered from all winds but the north, which in theſe climates only blow during the winter; that is, from the end of May to October, which is alſo the rainy ſeaſon. The weather is conſtantly wet

wet while that monſoon laſts; for the name of monſoons may, with propriety, be given to thoſe ſteady gales, that are followed by ſoutherly winds, which blow all the reſt of the year, and which are accompanied by the moſt delightful weather. The only anchorage ſheltered from the north-eaſt wind that prevails during the winter, is off the village of Talcaguana, on the ſouth-eaſt ſhore, which is now the only Spaniſh ſettlement in the bay, the old city of Conception, having, as I have already ſaid, been deſtroyed by an earthquake in 1751. It was ſituated at the mouth of the river of Saint Peter, to the eaſtward of Talcaguana; and its ruins are ſtill to be ſeen. They will not exiſt ſo long as thoſe of Palmyra have done, all the houſes in the country being either built of mud, or of bricks, dried in the ſun. The roofs are covered with pantiles the ſame as in ſeveral of the ſouthern provinces of France.

After the deſtruction of this city, which was rather ſwallowed up by the ſea, than overturned by an earthquake, the inhabitants diſperſed, and encamped upon the neighbouring heights. It was not till 1763, that they made choice of a new ſite at a quarter of a league from the river of Biobio, and at three leagues diſtance from old Conception, and the village of Talcaguana. The biſhoprick, the cathedral, and the religious houſes were transferred to the new city, which is of great

great extent, becauſe the houſes are built only one ſtory high, that they may be the better able to reſiſt the earthquakes that happen every year.

The new town contains about ten thouſand inhabitants. It is the reſidence of the biſhop, and of the major-general, who is at the head of the military department. This biſhopric confines on that of San-Jago, the capital of Chili, where the governor-general reſides. It is ſkirted to the eaſtward by the Cordilleras, and extends ſouthward as far as the Straits of Magellan; but its true limits are the river of Biobio, at a quarter of a league's diſtance from the city. All the country ſouth of that river belongs to the Indians, except the iſland of Chiloe, and a ſmall diſtrict round Baldivia. It is improper to give to thoſe people the name of ſubjects of the King of Spain, with whom they are almoſt always at war. The functions of the Spaniſh commandant are conſequently of the greateſt importance. He commands both the regular troops and the militia, which gives him great authority over all the citizens, who, in their civil concerns, are governed by a corregidor. He is beſides charged excluſively with the defence of the country, and obliged to fight, and to negociate inceſſantly. A new adminiſtration is about to ſucceed the old one. It will differ little from that of our colonies, as the authority is to be divided between the command-

ant and intendant. But it muſt be obſerved that there is no ſupreme court in the Spaniſh colonies, thoſe who are inveſted with the King's authority preſiding alſo as judges in civil cauſes, with a few civilians to aſſiſt them. It is eaſy to perceive that as juſtice is not adminiſtered by judges equal in dignity, the opinion of the preſident muſt almoſt always bias that of the inferior members of the court. The conſequence is, that juſtice is in fact adminiſtered by a ſingle perſon, which muſt be attended with great inconvenience, unleſs we ſuppoſe that perſon void of all prejudice, free from all paſſions, and poſſeſſed of the moſt enlightened underſtanding.

There is not in the univerſe a ſoil more fertile than that of this part of Chili. Corn yields ſixty for one; the vineyards are equally productive; and the plains are covered with innumerable flocks, which multiply beyond all conception, though abandoned entirely to themſelves. All the inhabitants have to do is to ſet up fences round their reſpective poſſeſſions, and to leave the oxen, horſes, mules, and ſheep, in the incloſures. The common price of a fat ox is eight dollars; that of a ſheep three quarters of a dollar, but there are no purchaſers; and the natives are accuſtomed every year to kill a great number of oxen, of which the hides and tallow are alone preſerved, and ſent to Lima. Some meat is alſo cured

cured in the Indian manner for the conſumption of the ſmall coaſting veſſels in the South Sea.

There is no particular diſeaſe incident to this country; but one which I dare not name is very common. Thoſe who are fortunate enough to eſcape it, live to a very great age. There are at Conception ſeveral perſons who have completed a century.

Notwithſtanding ſo many advantages, this colony is very far from making the progreſs that might be expected from a ſituation ſo favourable to an increaſe of population; but the influence of the government inceſſantly counteracts that of the climate: prohibitive regulations exiſt from one end of Chili to the other. This kingdom, of which the productions, if carried to their higheſt pitch, would feed half Europe; of which the wool would ſuffice for the manufactures of France and England; and of which the cattle, if ſalted down, would produce an immenſe revenue; this kingdom, I ſay, is entirely deſtitute of commerce. Four or five ſmall veſſels arrive every year from Lima, with ſugar, tobacco, and a few articles manufactured in Europe, which the unfortunate inhabitants can only purchaſe at the ſecond or third hand, and after immenſe duties have been paid upon them firſt at Cadiz, then at Lima, and laſtly on their entering Chili. They can only give in exchange wheat, which is ſo cheap, that

the cultivator feels no deſire to clear his waſte land, tallow, hides, and a few planks; ſo that the balance of trade is always againſt Chili, which with it's gold *, it's mines, and it's trifling articles of barter, is unable to pay for the ſugar, the Paraguay tea, the tobacco, the cloth, the linen, the cambrick, and the commoner kinds of hardware, which it conſumes.

From this very brief ſtatement, it is evident that if Spain does not change it's ſyſtem; if the liberty of commerce be not authorized; if the duties paid upon foreign commodities be not reduced; if the government in ſhort will not believe that a very ſmall impoſt upon an immenſe population is more productive of revenue than exceſſive duties which annihilate that conſumption, the kingdom of Chili will never reach that pitch of proſperity which might be expected from it's ſituation..

Unfortunately this country produces a ſmall quantity of gold. Almoſt all the rivers being auriferous, the inhabitant by waſhing the earth can earn, it is ſaid, half a dollar a day; but as proviſions are very abundant, he has no real want to

* According to the information I received, the gold collected annually in the biſhoprick of Conception, may be eſtimated at two hundred thouſand dollars. There are ſingle plantations at St. Domingo, which produce as large an income.

incite

incite him to labour. Without communication with foreigners, and unacquainted with our luxury and arts, he can desire nothing with sufficient energy to overcome his sloth. The ground therefore lies waste, the most active of the natives being those who devote a few hours to the washing of the sand of their rivers, which exempts them from the necessity of learning any trade. The consequence is that the houses even of the richest inhabitants are bare of furniture, and that all the workmen at Conception come from foreign parts.

The dress of the women consists of a plaited petticoat of those old-fashioned gold and silver stuffs formerly manufactured at Lyons. These petticoats which are reserved for gala days, may, like diamonds, be entailed in a family, and descend from the grand-mother to the grand-daughter. Such dresses are, however, confined to a small number of females, the rest having hardly wherewithal to hide their nakedness.

Sloth, still more than credulity and superstition, has peopled this kingdom with nuns and monks, the latter of whom enjoy greater liberty than in any other country in the world. The misfortune of having nothing to do, the want of family ties, the profession of celibacy, without being separated from the world, and their living in the convenient retirement of their cells, has

rendered, and could not fail to render them, the greateſt profligates in America. Their effrontery is inconceivable. I have ſeen ſome of them ſtay till midnight at a ball, aloof indeed from the good company, and ſeated among the ſervants. Theſe ſame monks gave our young folks more exact information than they could get elſewhere concerning places with which prieſts ought only to have been acquainted in order to interdict the entrance.

The common people of Conception are much addicted to thieving, and the women are exceedingly eaſy of acceſs. They are a degenerate and mongrel race; but the inhabitants of the firſt claſs, the true-bred Spaniards, are polite and obliging in the extreme. I ſhould be wanting in gratitude, if I did not paint them in colours ſuitable to their character, which I ſhall endeavour to make known, while giving an account of our own tranſactions.

I was ſcarcely at anchor a-breaſt of Talcaguana, when a dragoon brought me a letter from M. Quexada, commandant *pro tempore*, in which he told me, that we ſhould be received like fellow-countrymen. He added, with great politeneſs, that the orders he had received in that reſpect, were conformable to the ſentiments of his heart, and to thoſe of all the inhabitants of Conception. This letter was accompanied by refreſhments of all ſorts, which every one haſtened to ſend on board. The quantity was ſo great, that we could neither conſume them, nor know how to ſtow them away.

Obliged

Obliged to attend in the firſt place to the refitting of my ſhip, and to the depoſiting of our aſtronomical clocks and quadrants on ſhore, I could not go immediately to return my thanks to the governor. I was impatient for an opportunity of acquitting myſelf of that duty, but he was beforehand with me, and came on board, attended by the principal officers of his colony. The following day, I returned his viſit, accompanied by M. de Langle, and ſeveral of the officers and ſcientific men. We were preceded by a detachment of dragoons, the commanding officer of which had ſtationed half a troop at Talcaguana. Ever ſince our arrival, both they and their horſes were at our command. M. Quexada, M. Sabatero, commandant of the artillery, and the town-major, came to meet us at a league's diſtance from Conception. We all alighted at the houſe of M. Sabatero, where an excellent dinner was put upon the table; and at night there was a ſplendid ball, to which the principal ladies of the place were invited.

The dreſs of theſe ladies, very different from that to which our eyes were accuſtomed, was painted by M. Duché de Vancy. A plaited petticoat which leaves half the leg expoſed, and which is tied a great way below the waiſt; ſtockings ſtriped red, blue, and white; ſhoes ſo ſhort, that the toes are bent double, which

makes the foot appear nearly round; ſuch is the habit of the ladies of Chili. They wear their hair without powder, and divided behind into ſmall braids, which hang down their backs. Their corſet or bodice is generally of gold or ſilver ſtuff, and is covered with two ſhort cloaks, the firſt of muſlin, and the ſecond which is worn over it, of wool of different colours, blue, yellow, or pink. With theſe woollen cloaks they cover their heads when they are in the ſtreets and the weather is cold; but when in a room they uſually lay them on their knees; and there is a game played with the muſlin cloak, by ſhifting it about inceſſantly, at which the ladies of Conception diſplay a great deal of grace. They are in general pretty, and ſo charmingly polite, that there is certainly no maritime city in Europe where foreign navigators are received with ſo much kindneſs and civility.

About midnight the ball was at an end. As the houſes of the commandant and of M. Sabatero could not contain all the French officers and paſſengers, the inhabitants preſſed us to accept of beds; and in this manner we were quartered in the different parts of the town.

Before dinner, we had been to pay viſits to the principal citizens, and to the biſhop, a man of great ſenſe, of agreeable manners, and of a charity of which the Spaniſh biſhops afford frequent

View in the Island of St. Catherine.

RPJCB

quent examples. He is a Creole, born in Peru, was never in Europe; and is ſolely indebted to his merit for his elevation. He talked to us of the regret which major-general Higuins would feel at being detained upon the frontiers by the Indians during our ſhort ſtay in his government. The favourable report made of that officer by every one, and the general eſteem in which he was held, made me lament the circumſtances that occaſioned his abſence. A courier had been diſpatched to him, and his anſwer, which was brought while we were ſtill at Conception, announced his ſpeedy return. He had juſt concluded a glorious peace, that was highly neceſſary to the people of his government, their diſtant habitations being expoſed to the ravages of ſavage nations, who maſſacre the men and children, and make the women priſoners.

The Indians of Chili are no longer thoſe Americans who were inſpired with terror by European weapons. The increaſe of horſes, which are now diſperſed through the interior of the immenſe deſerts of America, and that of oxen and ſheep, which has alſo been very great, have converted theſe people into a nation of Arabs, comparable in every reſpect to thoſe that inhabit the deſerts of Arabia. Conſtantly on horſeback, they conſider an excurſion of two hundred leagues as a very ſhort journey. They march, accompanied by their

flocks and herds; feed upon their flesh and milk; and sometimes upon their blood *; and cover themselves with their skins, of which they make helmets, cuirasses, and bucklers. Hence it appears that the introduction of two domestic animals has had a decisive influence upon the manners of all the tribes which inhabit the country from St. Jago to the Straits of Magellan. All their old customs are laid aside; they no longer feed on the same fruits, nor wear the same dress; but have a more striking resemblance to the Tartars, or to the inhabitants of the banks of the Red Sea, than to their ancestors, who lived two centuries ago.

It is easy to conceive how formidable such people must be to the Spaniards. How is it possible to follow them in such long excursions? How is it possible to prevent assemblages which bring together in a single point nations scattered over four hundred leagues of country, and thus form armies of thirty thousand men.

M. Higuins has succeeded in gaining the good will of these savages, and has rendered the most signal service to the nation that has adopted him; for he was born in Ireland, and belongs to one of those families that are persecuted on account of their religion, and their old attachment to the house of Stuart,

* I have been assured that they sometimes bleed their oxen and horses, and drink the blood.

I cannot deny myſelf the pleaſure of making known this worthy officer, whoſe manners are ſo much to the taſte of every country. Like the Indians, I felt an affection for him after the firſt hour's converſation. His return to Conception followed cloſe after his letter; and I was ſcarcely informed of it, when he arrived at Talcaguana. Thus was my viſit again anticipated. But a major-general of cavalry is ſooner on horſeback than a French ſea officer; and M. Higuins, on whom the country depended for its defence, was poſſeſſed of a degree of activity not eaſily to be matched. His kindneſs, if poſſible, exceeded that of M. Quexada. There was ſo much of truth in his manner, and his affection for all the French was ſo great, that no words could expreſs our ſenſe of gratitude. As we were under obligations to all the inhabitants, we reſolved to give a general entertainment before our departure, and to invite all the ladies of Conception. A large tent was pitched by the ſea-ſide, and we gave a dinner to a hundred and fifty perſons of both ſexes, who had complaiſance enough to come three leagues to ſee us. The dinner was followed by a dance, a ſmall diſplay of fire-works, and a paper balloon, large enough to afford an agreeable ſpectacle.

The following day, the ſame tent ſerved us for the purpoſe of giving a great dinner to the crews of

of both frigates. We all ate at the ſame table. M. De Langle and myſelf were at the head, and each officer, down to the loweſt ſailor, was ſeated according to the rank he held on board. Our diſhes were wooden bowls. Gaiety was depicted in the countenance of all the ſailors, who looked better, and were a thouſand times happier, than the day of our departure from Breſt.

The major-general wiſhing, in his turn, to give an entertainment, we all repaired to Conception, except the officers on duty. M. Higuins came out to meet us, and conducted our cavalcade to his houſe, where a table of a hundred covers was laid; to which all the officers and inhabitants of note were invited, as well as ſeveral ladies. Between the courſes, a Franciſcan monk, who had the gift of improviſing, recited Spaniſh verſes, to celebrate the union that prevailed between the two nations. At night there was a ball, to which all the ladies repaired dreſſed in their fineſt clothes; and a very pretty ballet was danced by officers in maſks. It would be impoſſible to produce a more delightful *fête* in any part of the world. It was given by a man adored in the country, to foreigners of the nation which had the reputation of being the moſt gallant in Europe.

But theſe diverſions, and this good reception, did not make me loſe ſight of my principal object. On the day of our arrival I had given notice that I ſhould

I ſhould ſail on the 15th of March, and that if our veſſels ſhould be refitted, and our proviſions, wood and water put on board before that time, every one ſhould be at liberty to go and amuſe himſelf on ſhore. Nothing could be better calculated to create diſpatch than this promiſe, of which I feared the effect as much as the ſailors deſired it, becauſe wine is very common at Chili; and becauſe every houſe in Talcaguana is a tavern, and the women of the lower claſſes almoſt as complaiſant as at Otaheite. No diſturbance, however, took place; nor did my ſurgeon make a report of any bad conſequences reſulting from this indulgence.

During our ſtay at Talcaguana, M. Dagelet regularly made compariſons to aſcertain the rate of going of our time-keepers, with which we were exceedingly well ſatisfied. Since our departure from France, No. 19 was found to have loſt only $3''\frac{1}{2}$ per day on the mean movement of the ſun, which differs only half a ſecond from its daily rate at Breſt, and one ſecond, on comparing it with that at which it went at Teneriffe. The ſmall time-keepers, No. 25 and No. 29, varied ſo materially, as not to deſerve our confidence.

On the 15th, at day-break, I made the ſignal to prepare to ſail; but the wind had unfortunately ſettled at north. It had been conſtantly between ſouth-ſouth-weſt and ſouth-weſt ſince our firſt arrival

rival in the road. The breeze generally ſprang up at ten o'clock in the morning, and gave over blowing at the ſame hour in the evening, dying away ſooner, if it had begun at an earlier hour; and on the contrary, laſting till midnight, if it had only begun at noon; ſo that there was about twelve hours of wind and a calm of equal duration. This rule held good till the 15th, when the wind, after a flat calm and exceſſive heat, ſettled at north. It blew a very freſh gale from that quarter, with a great deal of rain during the night between the 15th and 16th; but on the 17th, towards noon, a light breeze ſprang up from the ſouth-weſt, with which I got under way. It was very faint, and only carried us two leagues out of the bay, where we remained completely becalmed in a very heavy ſwell of the ſea, occaſioned by the late northerly gale. We were all night long ſurrounded by whales, which came ſo cloſe to our ſhips, that they threw water on board from their ſpiracles. It is worthy of remark, that no inhabitant of Chili ever harpooned a ſingle one. Nature has beſtowed ſo many good things on the country, that ſeveral centuries will probably elapſe before that branch of induſtry is cultivated.

On the 19th, a ſoutherly wind enabling me to gain an offing, I ſhaped my courſe to the eaſtward of the Iſland of Juan Fernandez, which I did not make,

make, becauſe its poſition having been fixed by the obſervations of Father Feuillée at Conception, it is impoſſible that there can be an error of 10′ in longitude.

On the 23d, I was in 30° 29′ ſouth latitude, and 85° 51′ weſt longitude, according to our time-keeper No. 19, of which the rate of going, ſince our departure from Conception only, was ſo exactly equal to that of No. 18, on board M. De Langle's ſhip, that there was not a difference of two minutes of a degree in their reſults till our arrival at Eaſter Iſland. It was not the ſame in the cold climate of Cape Horn. It appears, that the table of temperature delivered to M. Dagelet at Paris by M. Berthoud, was not exact; and the difference was ſo conſiderable, as to occaſion, in No. 18, an error of longitude of more than a degree between Lemaire's Straits and the coaſt of Chili.

On the 24th, the wind ſettled at eaſt, and did not vary 5° till we were within about a hundred and twenty leagues of Eaſter Iſland.

On the 3d of April, being in latitude 27° 5′ ſouth, and longitude 101° weſt, we had the wind from north-eaſt to north-weſt. We alſo ſaw ſeveral birds, the only ones we had met with ſince we paſſed by the Iſland of Juan Fernandez; for two *taille-vents*, ſeen in a run of ſix hundred leagues, are not worthy of mention. This variety

of

of winds is the moſt certain ſign of land; but natural philoſophers will perhaps be puzzled to tell how the influence of a ſmall iſland, in the midſt of an immenſe ſea, can extend a hundred leagues. At the ſame time, it is not ſufficient for a navigator to preſume that he is at that diſtance from an iſland, if nothing indicates the point of the compaſs, in which he may expect to meet with it. The direction of the flight of birds after ſunſet, never taught me any thing; and I am perfectly convinced that they are guided in all their movements through the air by the allurement of their prey. At the fall of night, I have ſeen oceanic birds direct their flight towards ten different parts of the horizon; and I do not believe that the moſt enthuſiaſtic augurs would have dared to draw any concluſion from their flight.

On the 4th of April, when I was at no more than ſixty leagues diſtance from Eaſter Iſland, I ſaw no birds, and the wind was at north-north-weſt. It is probable that if I had not known the poſition of the iſland to a certainty, I ſhould have thought that I had paſſed it, and ſhould have put about. I made theſe reflections on the ſpot, and cannot help confeſſing that the diſcovery of iſlands is only due to chance, and that very often the moſt ſagacious calculations have only ſerved to put navigators out of their way.

On

On the 8th of April, at two in the afternoon, I got ſight of Eaſter Iſland which bore weſt 5° ſouth, diſtant twelve leagues. The ſea was high, with the wind at north; for four days it had never blown ſteadily, but had ſhifted about by the weſt from north to ſouth. I believe that the proximity of a ſmall iſland was not the only cauſe of that inconſtancy, it being probable that the trade wind is not regular at this time of the year in the latitude of 27°. It was the eaſt point that I perceived. I was preciſely in the ſame place where, in 1786, Davis fell in with an iſland of ſand, and twelve leagues farther, with land to the weſtward, which captain Cook, and Mr. Dalrymple, have ſuppoſed to be Eaſter Iſland, found again in 1722 by Roggewein. But thoſe two ſeamen, though very well informed, have not ſufficiently conſidered what Waffer relates. He ſays, (page 300 of the Rouen edition) "That captain Davis, having taken his departure from the Gallapagos, with the intention of returning to Europe by Cape Horn, and meaning to touch at Juan Fernandez only, felt a terrible ſhock in latitude 12° ſouth, and thought that he had ſtruck upon a rock. He had conſtantly ſteered ſouth, and according to his reckoning was at a hundred and fifty leagues diſtance from the continent of America. He afterwards learned that at that very point of time there had been an earthquake

at

at Lima. Having recovered from his alarm, he continued to run ſouth, ſouth-by-eaſt, and ſouth-eaſt, till he reached latitude 27° 20′; and he relates that at two o'clock in the morning, the people ſtationed on the fore-caſtle, heard the ſea break upon a beach. He brought to till day-light, when he ſaw a ſmall iſland of ſand, with no rock near it. He ran within a quarter of a mile of it, and about twelve leagues farther to the weſtward ſaw land of conſiderable extent, which was taken for a cluſter of iſlands, on account of the intervals between the different capes." Davis continued his courſe towards Juan Fernandez without examining it; but Waffer ſays, "that this little iſland of ſand lies five hundred leagues from Copiapo, and ſix hundred from the Gallapagos."* The impoſſibility of this reſult has not been ſufficiently attended to: if Davis, being in 12° ſouth latitude, and a hundred and fifty leagues from the coaſt of America, made good a ſouth-ſouth-eaſt courſe, as Waffer relates; as it is evident that this captain of freebooters muſt have ſteered a courſe with an eaſterly wind, which blows very frequently in thoſe latitudes, in order to fulfil his intention of going to Juan Fernandez, we may conclude with M. Pingré that there is a miſtake of a figure in Dampier's quotation, and that Davis's Land is only two hundred leagues, inſtead of five hundred from Copiapo. It would then

then be probable, that Davis's two iſlands are thoſe of Saint Ambroſio and Saint Felix, a little north of Copiapo; but the pilots of the free-booters were not ſo nice in their obſervations, and ſcarcely ever found the latitude within leſs than 30 or 40′. I would have ſpared my readers this little geographical diſcuſſion, if I had not had the opinion of two juſtly celebrated men to combat. I muſt, however, obſerve, that captain Cook was in doubt, and that he ſays he would have decided the queſtion, if he had had time to make a run to the eaſtward of Eaſter Iſland. As I have run down three hundred leagues in that parallel, and have not ſeen the iſland of ſand, I think that no doubt ought any longer to be entertained, and that the problem is fairly ſolved *.

During

* In adopting the ſolution of the problem diſcuſſed by La Pérouſe, I feel it incumbent on me to enter more at large into the proofs that reſult from the journals of different navigators.

It appears certain, as Pingré, Cook, and La Pérouſe remark, that there is a miſtake of a figure in Dampier, and that the ſuppoſed Land of Davis, can only be at two hundred leagues from the coaſt of America.

I agree with La Pérouſe, that the obſervations taken of longitude in Davis's time were ſo erroneous, that the latitudes are alone to be depended upon. It is then after what Waffer relates, that the route of Davis may be traced from his departure from the Gallapagos Iſlands.

Davis, after leaving the Gallapagos Iſlands, ſtood to

During the night I ranged along the coaſt of Eaſter Iſland, at three leagues diſtance. The weather was clear, and the wind had chopped round

the ſouthward as far as 12° ſouth latitude, where he felt a terrible ſhock, &c. He had conſtantly ſteered a ſouth courſe, and was then a hundred and fifty leagues from the continent of America.

By marking this firſt point upon the chart it will appear that he was in 87° weſt longitude, or thereabout.

He continued his courſe ſouth, ſouth-by-eaſt, and ſouth-eaſt as far as the land which he diſcovered in 27° 20′ ſouth latitude.

According to Davis's route thus traced he muſt have really been about two hundred leagues from Copiapo, and ſix hundred from Gallopagos, or 1° to the ſouth-eaſt of the ſouth point of the poſition aſſigned in the French charts to the Iſlands of Saint Felix and Saint Ambroſe; it is already evident that the extenſive land which Davis perceived twelve leagues to the weſtward, muſt be the iſlands of Saint Felix and Saint Ambroſe.

The Engliſh charts place theſe iſlands in 15° ſouth latitude.

The French in 25°.

Thoſe of Green, in from 26° 20′ to 27°.

Cook acknowledges that he miſſed the true latitude of theſe iſlands, by rather depending upon the tables of latitudes and longitudes, inſerted in *Robertſon's Elements of Navigation*, than in Green's chart. He ſaw certain ſigns of land in the vicinity of 25° ſouth latitude.

Cook, when in 25° 50′ and 25° 30′, could neither ſee Davis's land, which does not exiſt, nor the Iſlands of Saint-Felix, and Saint-Ambroſe, which muſt exiſt in the 27th degree, and of which he had indications.

La

round from north to south-east, in less than three hours. At day break, I steered for Cook's Bay, which of all those in the island is the best sheltered from easterly winds. It is consequently only open to the west; and the weather was so fine, that I was in hopes it would not blow from that quarter for several days. At eleven o'clock I

La Pérouse, in coming from the eastward, and running down three hundred leagues in the parallel of Easter Island, could neither see Davis's Land, nor the Islands of Saint-Felix and Saint-Ambrose, of which the longitude is from 26° to 27° to the eastward of that island.

It is evident, as captain Cook and Dalrymple thought, that Easter Island, found again by Roggewein, in 1722, cannot be Davis's Land.

It is evident that the Islands of Saint Felix and Saint Ambrose cannot exist in the position assigned to them in the English charts, for as Cook remarks, Davis would have met with them in his route.

It is evident that the Islands of Saint-Felix and Saint-Ambrose cannot exist in the position assigned to them in the French charts, a position conformable to that laid down by Robertson; for then captain Cook would have found them.

It appears then demonstrated that Davis's Land does not exist; but that islands exist in the 27th degree of south latitude, at about two hundred leagues from Copiapo, which islands are no other than those of Saint-Felix and Saint Ambrose, badly laid down in all the charts; and that these islands are the supposed Land of Davis; such at least, is the opinion I have formed, after consulting the journals of different navigators. It is also that of a much esteemed navigator of modern times—I mean Bougainville. *(Fr Ed.)*

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was only a league from the anchorage. The Aſtrolabe had already let go her anchor, and I dropped mine very near her; but the bottom ſhelved ſo ſuddenly that neither of them held, and we were obliged to heave them up and make two boards in order to regain the anchorage.

This accident did not damp the ardour of the Indians. They ſwam after us till we were a league in the offing, and came on board with a ſmiling look and an air of ſecurity which gave me a high opinion of their diſpoſition. Men, more ſuſpicious than they, would have been afraid, when we got under way again, of being carried away from their native land. But the idea of ſuch an act of perfidy never ſeemed to preſent itſelf to their mind. They were in the midſt of us naked and without arms, having only a bit of packthread tied round their loins to confine a bundle of graſs which concealed their private parts.

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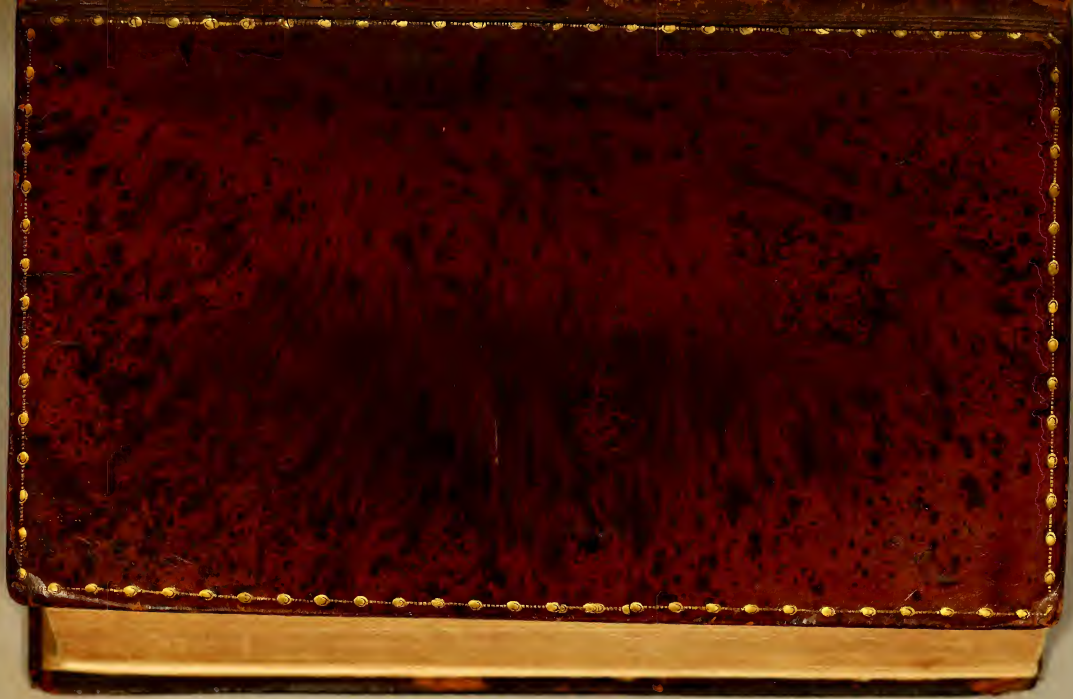
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